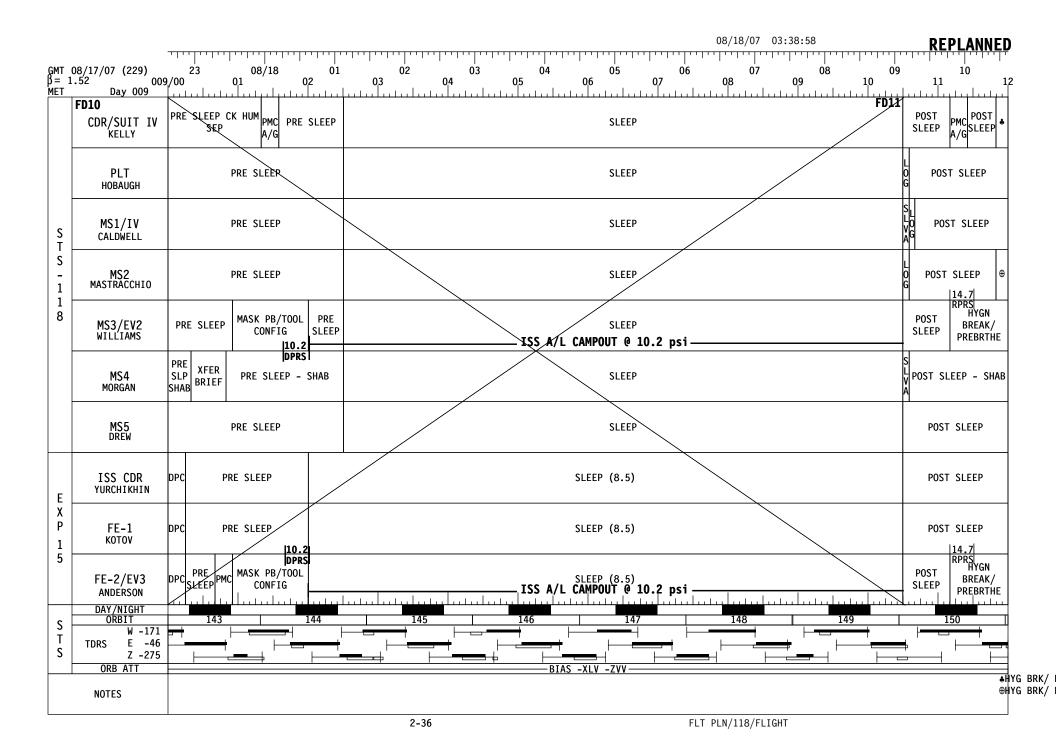
1 2	<u>M</u>	SG IND	D <u>EX</u>							
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 22 23	<u>M</u> \$	SG NO 110 111 112 113 114 115 116 117 118 119 120 121 122	CEVIS- Ergometer R&R CEVIS- Ergometer and Display/Control Panel Calibration FD11 Flight Plan Revision FD11 Mission Summary FD11 Transfer Message Stowage Location for Fri PLAN (GMT 229 FD10) New LiOH Cue Card Hurricane Dean Update MMT Summary Timeline EVA 4 Big Picture Words EMU Prep and Transfer Update EVA Tool Prep and Transfer Update CEVIS R&R Big Picture Words							
23 24 25 26 27	1.	For today's cryo config, H2 Tanks 2 and 5 will be active with dual heaters. O2 Tank 1 will be active with dual heaters and Tank 4 will be active with a single heater.								
28 29 30		R1	CRYO O2 MANF VLV TK1 - OP (tb-OP) H2 MANF VLV TK2 - OP (tb-OP)							
31 32 33		A15	CRYO TK5 HTRS H2 A,B (two) - AUTO							
34 35		A11	CRYO TK4 HTRS H2 A,B (two) - OFF							
36 37 38 39	2.	for ap	g EVA 4 EWIS ANTENNA INSTALL Task, the audio Big Loop will be disconnected proximately two hours due to SSSR deactivation and the docked hardline A/G #1 failure.							
40 41 42 43		Memb	From GMT 230/15:45 - 17:35, Shuttle IV members will have direct comm with EVA Members using A/G #1 and the SSOR. ISS IV members will have direct comm with EVA Members using the drag-thru BPSMU configured for A/G #1.							
44 45 46		During	g this timeframe, Station and Shuttle Capcoms will be using A/G1 for all EVA calls.							
47 48 49	3.	There	are no exercise constraints for any of the activities on FD11.							
50 51	4.	For E	/A big picture words see MSG 119 (15-0991).							

END OF PAGE 1 OF 15, MSG 112C

	_	M. C.M.C. D
1	5.	Waste Water Dump
2		At MET 9/20:45, perform a waste water only dump using SUPPLY/WASTE WATER
3		<u>DUMP</u> (ORB OPS, <u>ECLS</u>) p. 5-2. MCC will TMBU limits in steps B and K. Dump the
4		waste tank to 5%. Nozzle open time will be ~34 minutes.
5		'
6		
7	6	OGS PWR Fill #2 (Purple Label)
8	Ο.	There will be no need to reference the Water Ops Cue Card. The following will be
9		
		required for today's OGS PWR fill using <u>PWR FILL</u> (ORB OPS, <u>ECLS</u>).
10		WARNING BURN ALL THE STORY OF T
11		WARNING: PWR contains residual H2O. Fill duration may be shorter than expected.
12		
13		Fill PWR S/N 2002 (temp stowed on Middeck)
14		 Verify Purple Label in PWR window
15		 Post fill transfer to ISS A/L1D1_B2
16		
17		PWR Fill Notes:
18		Do not pull drink water from Galley during PWR Fill.
19		 Do not detach PWR (EMU H2O Recharge Bag) QD restraint during PWR
		· · · · · · · · · · · · · · · · · · ·
20		operations.
21		 Do not overfill as the PWR could leak.
22		
23		
24	7.	There are no SPACEHAB viewport violations for FD11.
25		
26		
27	8.	REPLACE PAGES 2-36, 2-38, 2-40 and 3-114 THROUGH 3-123.
28		
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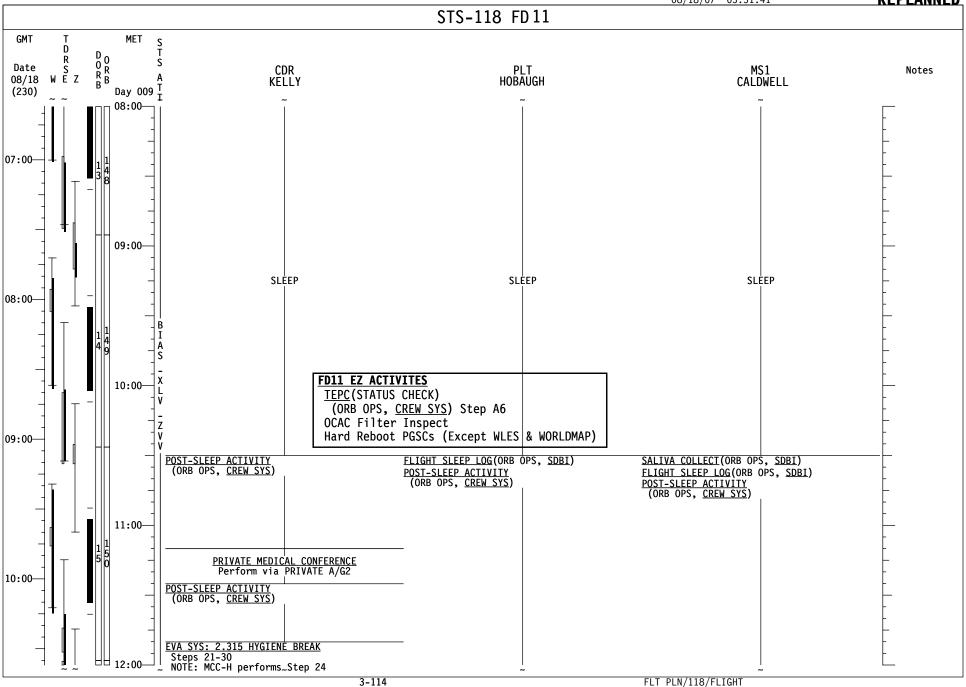


				08/18/07 03:38:58	REPLANNED
-0	08/18/07 (230) 0.90 1	11 12 13 14 15 2 13 14 15	16 17 18 1	18 19 20 21 19 20 21 22	22 23 010/00
Γ	CDD	CLS E B UPS WPS WPS	N I EXERCISE 2 M MEAL	P/TV07 R/P POST EVA EMU XFER TO A E X Z STS R L L V E L V V	C DC
	PLT HOBAUGH		2 SYS ARDOWN P/TV07 EVA OPS	MEAL NOM A L V T T T T T T T T T	
	MS1 CALDWELL	POST SLEEP EXERCISE IVA PREP	EVA 4 IVA SUPPORT	M D I S S M S B E L MISSE TOOL XFR TOOL VR L E L	RNDZ TOOLS _⊕
	MASTRACCUTO	HYG BRK/ HTCH CLS CAMPOUT EVA PREP E P M U V R EMU PRE C/L D O R EXERCISE E P O R EXERCISE	E MEAL EMU XFER TO	O STS R P POST EVA EMU XFER TO A E R L CLOS	CH ODS LEAK SE CHECK
	MS3 WILLIAMS	® CAMPOUT EVA PREP UN BREATHE C/L DRS OSE BREATHE DPRS PS INSTALL	SASA GIMBL LOCKS EWIS ANTENNA INSTAL	LLL CLEAN L GR / P POST EVA EMU XFER TO A E R L E L	PRE SLEEP
	MS4 MORGAN	PRS X U D M C CP/TV C SLEEP R D POST SLEEP U 07 U T SHAB A T SAW S S U S U	MEAL	XFER S M NISSE X T A E A E A E B BRIEF R U P	EXERCISE ▼
	MS5 DREW	POST SLEEP CEVIS R&R EXERCISE	XFER MEAL	X T F W F D A E M P E G 04 R L K L P S/U E L Y	ODS LEAK A
	ISS CDR YURCHIKHIN	PWROBPCPWACBO-P-6B1-COMPRCOTP-BTK-R&REXE	ERCISE TVIS MIDDAY-MEA	AL DCB REV DCB1 & DCB2 PACK & A E EX BAG DCB2 R L E L	XERCISE DPC 0
()	KOTOV 1	ER DPCPW R COX MINI 18 EDIT CLST V CEVIS D TEAF	2 SYS RRDOWN EXERCISE RED MIDDAY-ME EVA 4 (4:30)	EAL DCB REV DCB1 & DCB2 PACK C C C S N A E R L CLOS	CH DPC ¢
5	FE-2 ANDERSON	PRS E P P E G OBSS OSE	MISSE RETRIEVAL EWIS ANTENNA INSTAL	C T P C R / N P P POST EVA EMU XFER TO A E STS R L UP R P S R S S S S S S S S S	DPC •
S T	DAY/NIGHT	151 152 153 153 154 155	154 155		158
	ORB ATT NOTES	®HYGN BREAK/ PREBRTHE *FILTER CK *INI' *POWER-ON &TAPE EXCHANGE	J *TERM	♦CBO-P-5B1-COMPR *XFER TO ISS +BPSMU	BIAS -XLV -ZVV - PRE #PRE
—		2_38		FLT_DLN/118/FLTGHT	

			08/18/07 03:38:58	REPLANNED				
MT = -3 4ET	08/18/07 (230) 3.28 010 Day 010	23 08/19 0/00 01	01 02 03 04 05 06 07 08 02 03 04 05 06 07 08 09 1	09 10 10 11 12				
	FD11			FD12				
	CDR KELLY	PRE SLEEP PMC PRE S	SLEEP SLEEP	O POST SLEEP A A T				
	PLT HOBAUGH	PRE SLEEP	SLEEP	O P S P O L POST SLEEP C S E U T E * P				
S T	MS1 CALDWELL	PRE SLEEP	SLEEP	POST SLEEP				
S - 1	MS2 MASTRACCHIO	PRE SLEEP	SLEEP	L O POST SLEEP G				
1 8	MS3 WILLIAMS	PRE SLEEP	SLEEP	R P POST SLEEP R N				
	MS4 MORGAN	PRE SLEEP - SHAI	SLEEP SLEEP	POST SLEEP SHAB				
	MS5 DREW	PRE SLEEP	SLEEP	POST SLEEP				
E	ISS CDR YURCHIKHIN	PRE SLEEP	PRE SLEEP SLEEP (8.5)					
X P 1	FE-1 KOTOV	PRE SLEEP	SLEEP (8.5)	POST SLEEP PREP WORK				
5		PRE SLEEP PFC PRE SLEEP	SLEEP (8.5)	MO 9 POST SLEEP ROER PK				
S T S	DAY/NIGHT ORBIT W -171 TDRS E -46 Z -275	159		165 166				
	ORB ATT	# ' <u></u>	BIAS -XLV -ZVV	*GR				
	NOTES			*0FF				
			2_40 FLT PLN/118/FLTGHT					

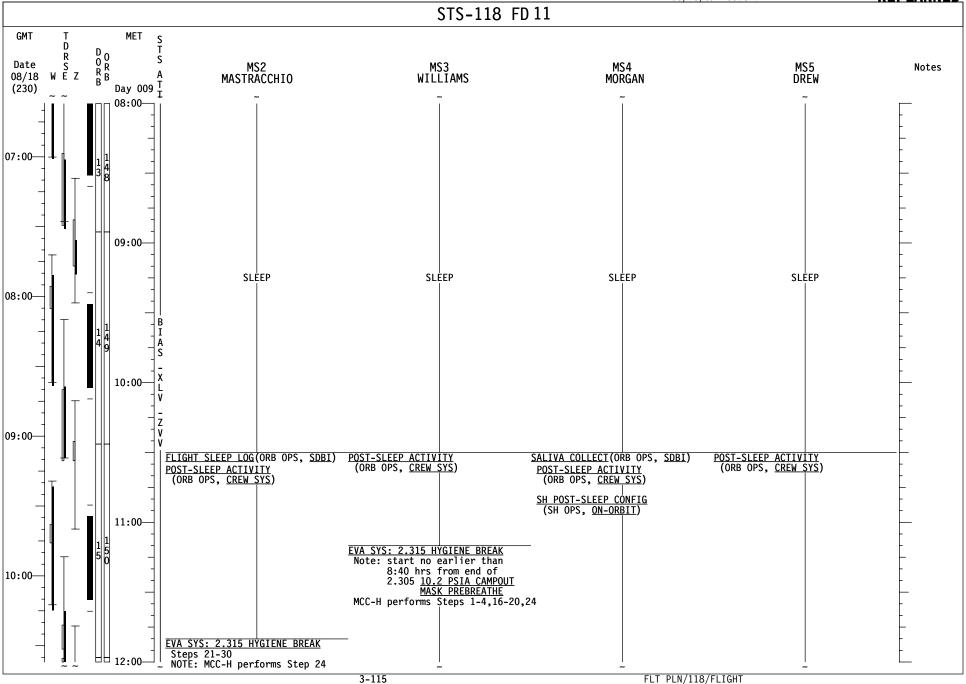


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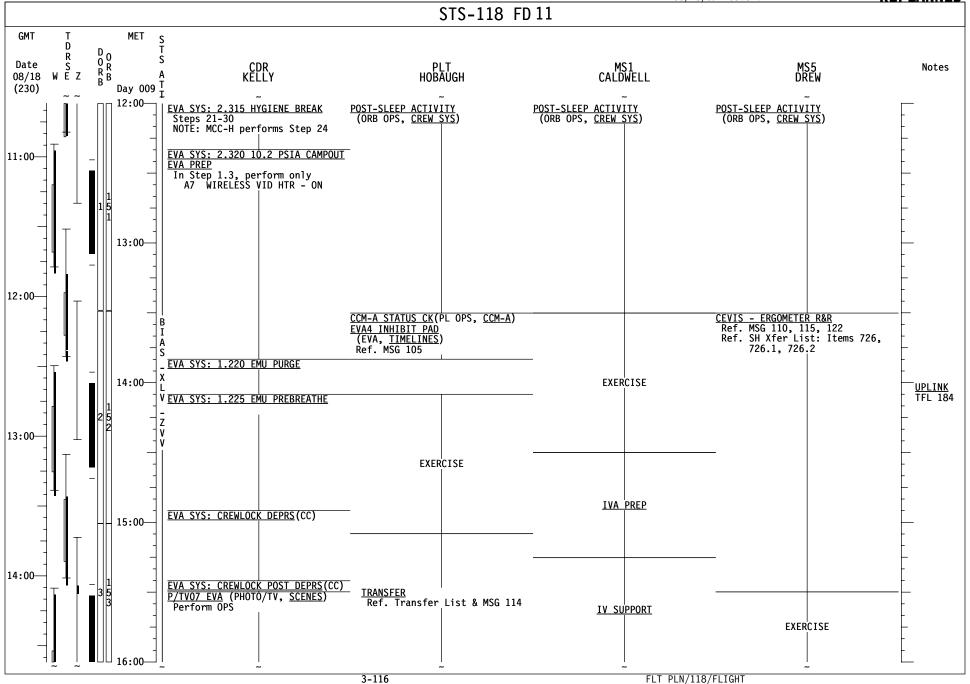




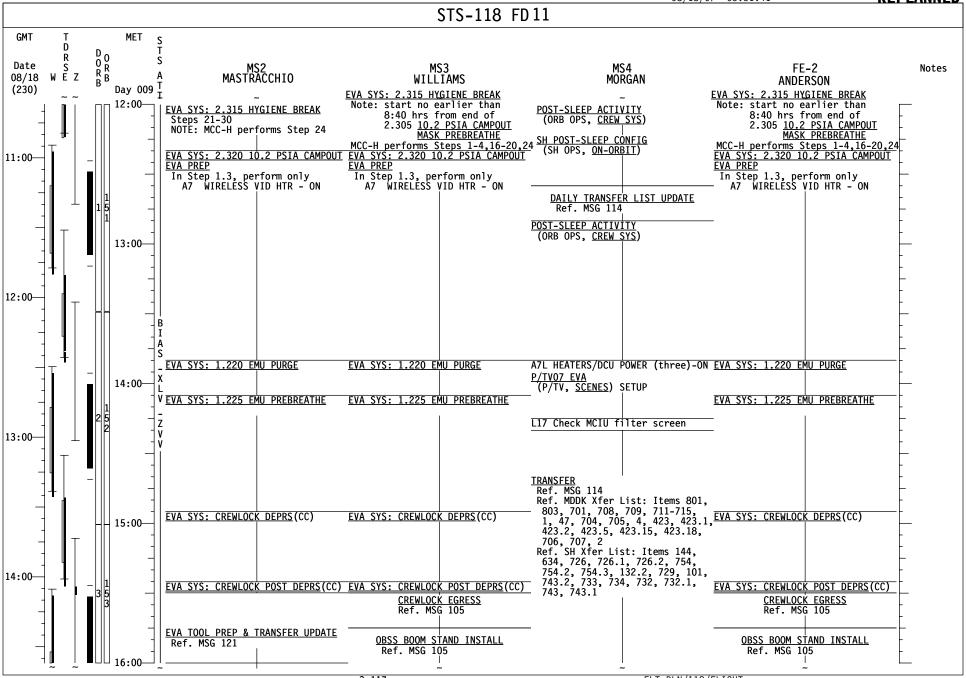
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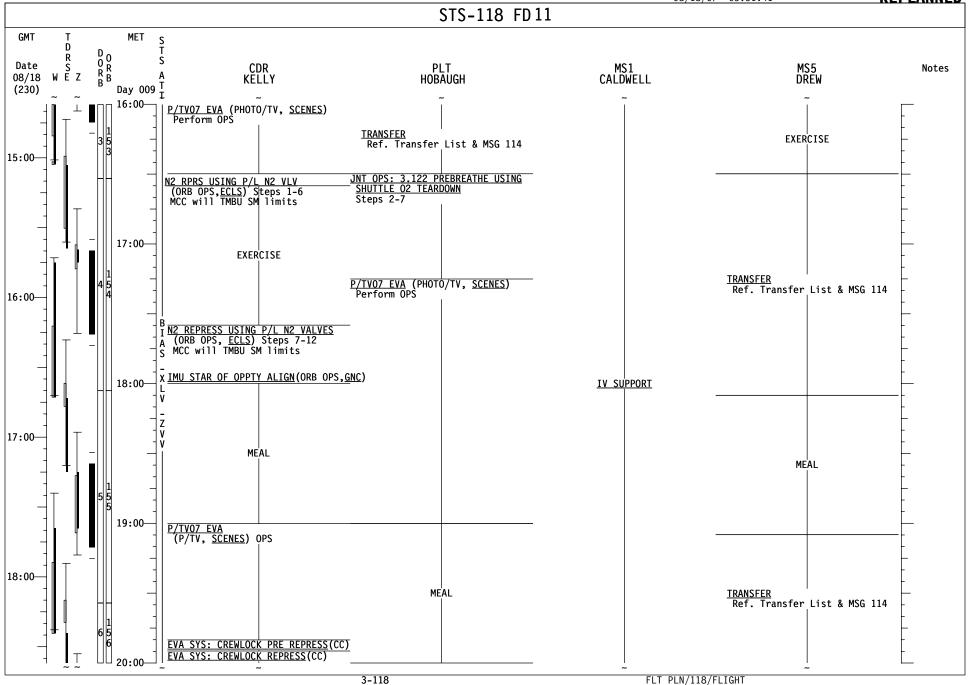




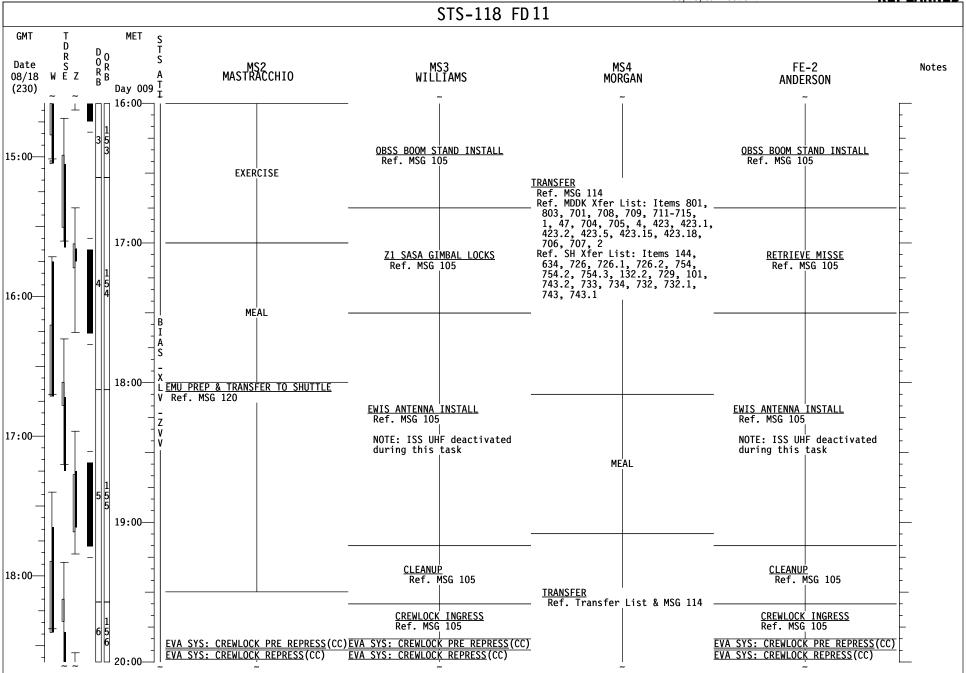
REPLANNED



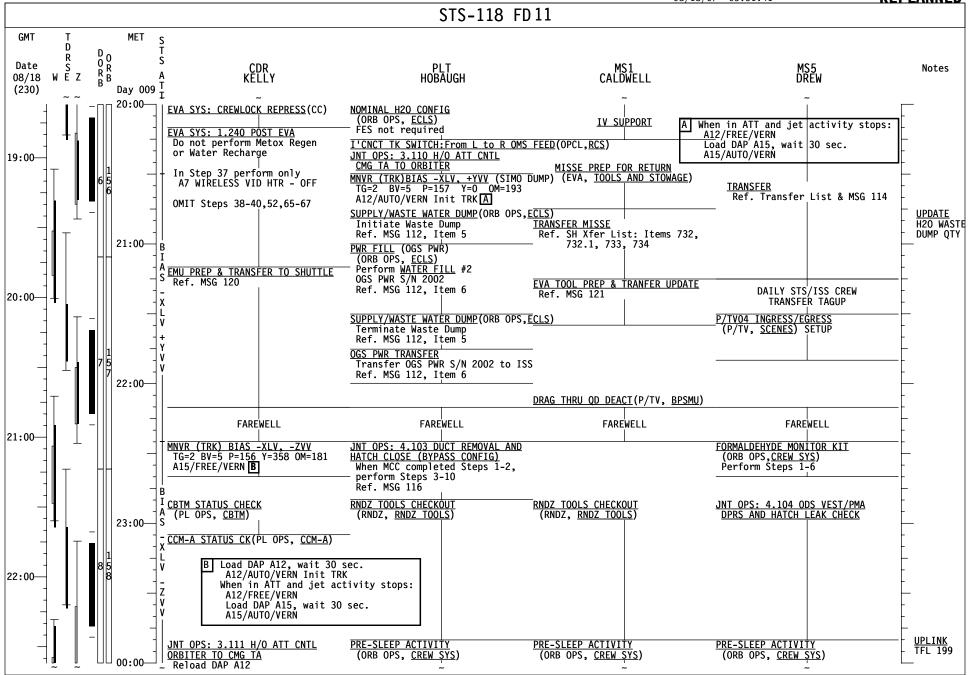
REPLANNED



REPLANNED

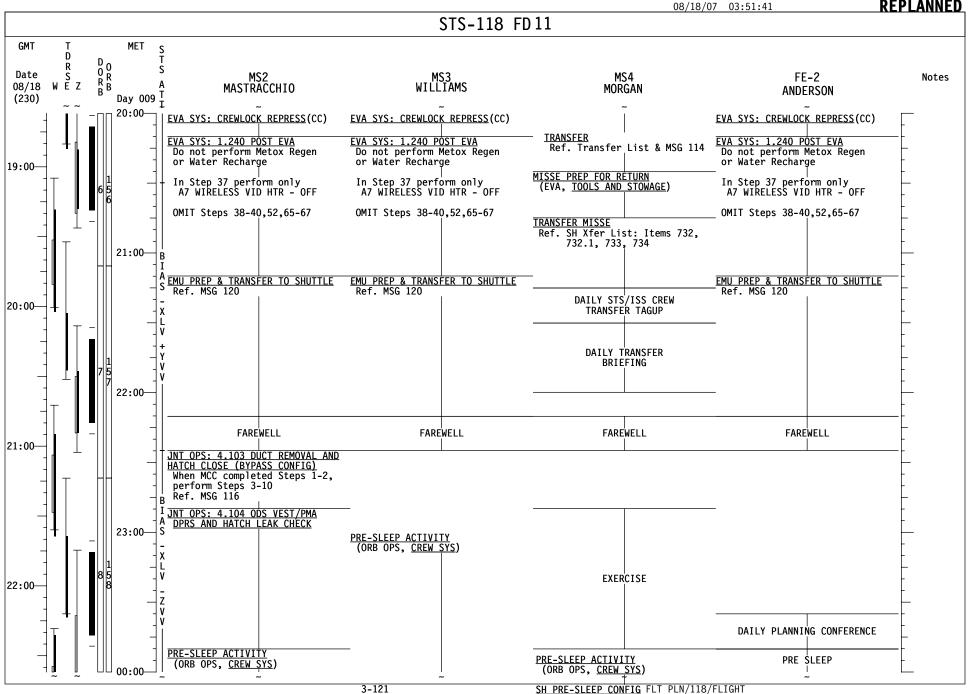


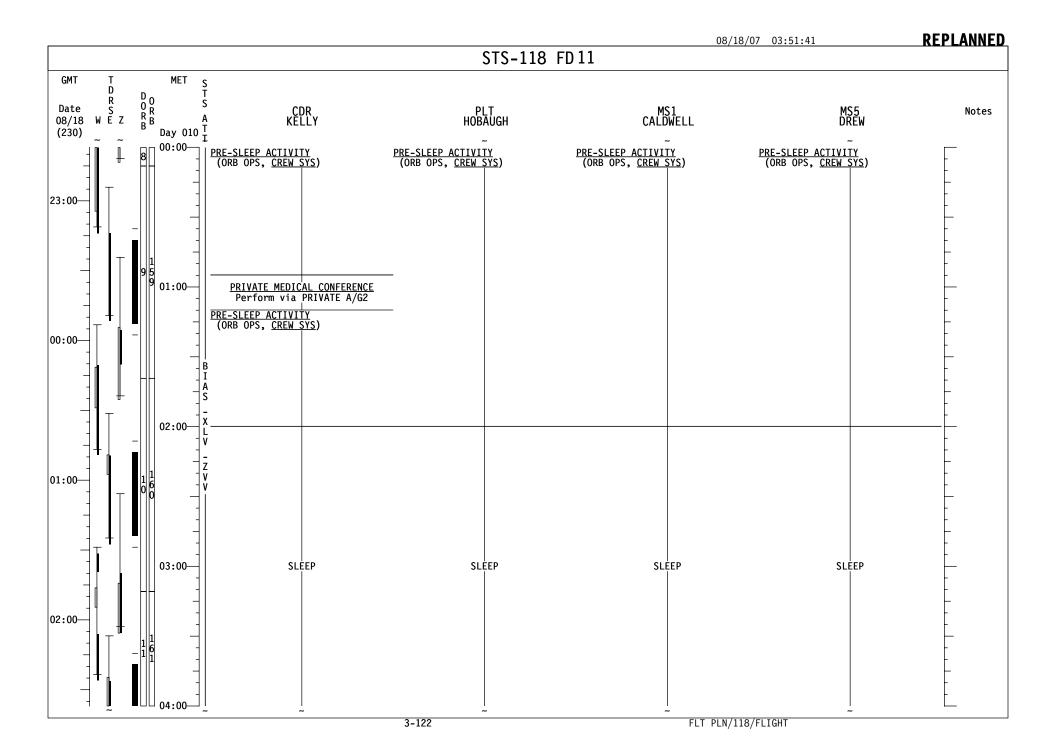


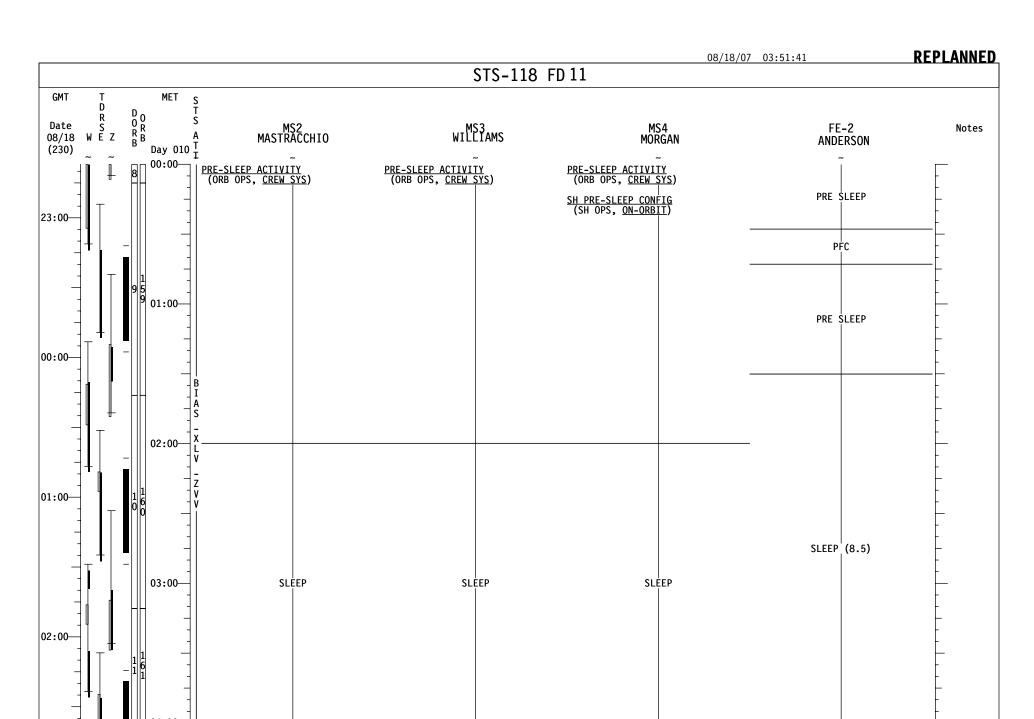




(SH OPS, ON-ORBIT)







MSG 113 (15-0985) - FD11 MISSION SUMMARY Page 1 of 2

2	Good Morning Endeavour!
3 4 5	Thanks for the great day yesterday! You are an awesome crew!
6 7 8 9	We are looking forward to the EVA today. As you were briefed last night, the EVA will be shortened so that hatch closure can take place this evening. You will undock tomorrow morning. Landing is being planned for Tuesday. This is all because of the potential threat to JSC posed by hurricane Dean. Dean's ground track is in MSG 117.
11 12	Thanks for your flexibility!
13 14 15	YOUR CURRENT ORBIT IS: 185 x 184 NM
16 17	NOTAMS:
18 19 20 21	EDW – EDWARDS: RWY 15/33 ELS ONLY. RWY 18L NOT USABLE NOR – NORTHRUP: ALL RWYS GREEN. YQX – GANDER: RWY 31 THLD DISPLACED 1,542' UNTIL 20 AUG 1445Z. ILM – WILMINGTON: RWY 31 THLD DISPLACED 1,542' 0915Z-1445Z DAILY UNTIL 20
22 23	AUG. ZZA – ZARAGOZA: FIRST 600 METERS OF RWY 30L NOT AVAILABLE 0600Z-1800Z
24 25 26 27 28 29 30	DAILY. MRN – MORON: CLOSED TO DOD OPERATIONS 1900Z TO 0259Z DAILY. NKT – CHERRY POINT: RWY 14R/32L CLOSED 13 AUG TO 16 SEP. WAK – WAKE ISLAND: CLOSED DUE TO RECONSTRUCTION. YYR – GOOSE BAY: RWY 08/26 CLOSED. 16/34 AVAILABLE. IKF – KEFLAVIK: NO AGREEMENT FOR USE. AWG – RIO GALLEGOS: NO AGREEMENT FOR USE.
31 32 33	NEXT 2 PLS OPPORTUNITIES:
34 35 36	NOR17 ORB 156 - 9/20:25 (SCT100 230/5P10) NOR17 ORB 172 - 10/20:48 (SCT100 230/5P10)
37 38	OMS TANK FAIL CAPABILITY:
39 40 41	L OMS FAIL: NO R OMS FAIL: NO
42 43	LEAKING OMS PRPLT BURN:
44 45 46	L OMS LEAK: ALWAYS BURN RETROGRADE R OMS LEAK: ALWAYS BURN RETROGRADE
47 48 49 50	OMS QUANTITIES(%) L OMS OX = 45.9 R OMS OX = 44.9 FU = 46.0 FU = 44.9
51	SUBTRACT I'CNCT COUNTER FOR CURRENT OMS QUANTITIES

MSG 113 (15-0985) - FD11 MISSION SUMMARY

Page 2 of 2

1	DELTA V AVAILABLE:	
2		
3	OMS	391 FPS
4	ARCS (TOTAL ABOVE QTY1)	39 FPS
5	TOTAL IN THE AFT	430 FPS
6		
7	ARCS (TOTAL ABOVE QTY2)	70 FPS
8	FRCS (ABOVE QTY 1)	24 FPS

AFT QTY 1 80 % 42 % AFT QTY 2

THERE ARE NO FAILURE/IMPACT/WORK AROUNDS FOR TODAY.

Page 1 of 7

Good morning Barb, Al & Dave,

1 2 3

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Just about done! It's been a pleasure watching you guys work. Again yesterday you completed about exactly what we predicted. You are now approximately 92% complete with SH transfers and 80% complete with MDDK transfers.

5 6 7

Thanks very much for your foam unpacking work yesterday – that's a big help to ISS habitability.

8 9 10

11

Because we are closing the hatch today, please call us if you run into any problems while transferring items throughout the day. There is very little time after the calldown to make any changes or provide any new information for you.

12 13 14

We've added a few new return items today: a used vacuum bag (item 754.3) added to item 754 for return in SH and 2 EVA LAB Handrails (item 743.2) for return in MDDK.

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We believe there is enough time to complete all remaining transfer items. However the MISSE transfer is just prior to the Transfer Tagup and Transfer Brief. If it's not strapped up prior to hatch closure, don't worry about it; we can schedule some Spacehab Cleanup time after hatch closure. This is also true for other return transfers from ISS. The important thing to verify in the Transfer Brief is that all items are on the correct side of the hatch.

21 22 23

For STS, the Transfer List Excel file, FD11 TransferList STS118.xls, is located on the KFX machine in C:\OCA-up\transfer.

24 25 26

For ISS, the Transfer List Excel file, FD11 TransferList STS118.xls, is located in K:\OCAup\transfer.

27 28

Q&As:

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Q1: Item 144 (1.0 CTB from FP10): We gave you s/n 1245 for this bag yesterday. Any luck finding it? If so, did you remove the foam from this CTB? Thanks.

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Q2: Item 438 (Sample Tube/CDMK/CSA-CP Resupply Kit): This CTB was stowed in the MDDK in Bag A on FD7. We understand that the 18th RAM was located and added to this CTB on FD9. Just wanted to let you know that we are aware of this addition.

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A1: Item 726, 726.1, 726.2 (CEVIS ergometer and cable): The returning ergometer and cable will be ready to pack into item 726 3.0 CTB about halfway into Al's CEVIS R&R activity this morning. You can pack these items at this time. However, following the installation of the new cable and ergometer, the ISS crew will exercise on CEVIS and download data. Depending on the data, it is possible that BME may request the old ergometer/cable stay on ISS. In this case, we will direct you to retrieve items 726.1 and 726.2 from the CTB and transfer them to ISS.

43 44 45

A2: Rack Front Tray strap reconfiguration for MISSE return: 10 straps need to be removed from the two bottom SF rack fronts to accommodate MISSE PECs for return. Please stow these straps in Return Bag 743 along with the EVA Tools 2 mesh bag (item 743.1).

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A3: Item 803 (CWC s/n 1078): We told you today that this CWC was not yet ready to pack. We've since learned that water was removed from this CWC on FD9. It is ready to be packed now.

Page 2 of 7

A4: Item 714 (Mt Mesh Bag): You asked if this needed to be at the bottom of this Bag C for return. This is not necessary. We expect it'll be very empty and MDDK Stow is okay with anywhere you put it in that bag.

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For today - FD11 (EVA4/Hatch Closure)

Middeck

- Item 801: CEVIS Resupply Kit to MA9J after CEVIS calibration
- Item 803: Add CWC s/n 1078 to Bag H
- Item 701: Stow БОК-3 Hardware in Bag C
- Items 4 (Dave): Deactivate and transfer AFD PCS from MDDK to ISS
- Items 708, 709 (Rick/Dave): Return EMUs to MDDK
- Items 711-715 (Rick/Dave): Return EVA bags of stuff to MDDK
- Items 1, 47, 704, 705: Swap 2 STS DCS 760 cameras with ISS cameras
- Items 423 and subs (Clay): Pack P/TV items after final EVA
- Items 706, 707 (Clay): Return coldbags from LAB containing samples to MDDK
- Item 2 (Oleg): Transfer extra o-rings and braycote to ISS during Hatch Close

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19 Spacehab

- Item 144 (lost CTB): Transfer to ISS if found.
- Item 634 Stow Clay's crew preference bag at FS12
- Items 726, 726.1, 726.2: Transfer old CEVIS Ergometer tower and display cable to SH after removal of old CEVIS.
- Items 754, 754.2, 754.3: Finish up Water CTB #1 and strap to FC05
- Items 132.2, 729: Return Seed Bag back into EPO 1.0 CTB at FC07
- Item 101 (Dave): Deactivate and transfer SH PGSC from SH to ISS.
- Item 743.2 (Rick/Dave): Remove EVA handrails from item 743.1 and stow in MDDK Bag B
- Items 733, 734 (Tracy/Barb): Configure MISSEs for return; stow on rack fronts in SH
- Items 732, 732.1 (Tracy/Barb): Pack up MISSE clamps in 0.5 CTB
- Items 743, 743.1 (Rick/Dave): Add EVA Tools 2 mesh bag to 3.0 CTB at AC04

33 34 35

Please update the Middeck Transfer List as follows:

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In SWAP tab:

Replace Swap Page 1

39 40

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Please update the Spacehab Transfer List as follows:

41 42

In **RETURN** tab:

- 43 Replace Return Page 23 44
 - Replace Return Page 25

- The Transfer Team

45 46

Please call us with questions.

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Page 3 of 7

Good morning Barb, Al & Dave,

Just about done! It's been a pleasure watching you guys work. Again yesterday you completed about exactly what we predicted. You are now approximately 92% complete with SH transfers and 80% complete with MDDK transfers.

Thanks very much for your foam unpacking work yesterday – that's a big help to ISS habitability.

Because we are closing the hatch today, please call us if you run into any problems while transferring items throughout the day. There is very little time after the calldown to make any changes or provide any new information for you.

We've added a few new return items today: a used vacuum bag (item 754.3) added to item 754 for return in SH and 2 EVA LAB Handrails (item 743.2) for return in MDDK.

We believe there is enough time to complete all remaining transfer items. However the MISSE transfer is just prior to the Transfer Tagup and Transfer Brief. If it's not strapped up prior to hatch closure, don't worry about it; we can schedule some Spacehab Cleanup time after hatch closure. This is also true for other return transfers from ISS. The important thing to verify in the Transfer Brief is that all items are on the correct side of the hatch.

For STS, the Transfer List Excel file, FD11_TransferList_STS118.xls, is located on the KFX machine in **C:\OCA-up\transfer**.

For ISS, the Transfer List Excel file, FD11_TransferList_STS118.xls, is located in **K:\OCA-up\transfer**.

Q&As:

Q1: <u>Item 144 (1.0 CTB from FP10):</u> We gave you s/n 1245 for this bag yesterday. Any luck finding it? If so, did you remove the foam from this CTB? Thanks.

Q2: <u>Item 438 (Sample Tube/CDMK/CSA-CP Resupply Kit)</u>: This CTB was stowed in the MDDK in Bag A on FD7. We understand that the 18th RAM was located and added to this CTB on FD9. Just wanted to let you know that we are aware of this addition.

A1: <u>Item 726, 726.1, 726.2 (CEVIS ergometer and cable):</u> The returning ergometer and cable will be ready to pack into item 726 3.0 CTB about halfway into Al's CEVIS R&R activity this morning. You can pack these items at this time. However, following the installation of the new cable and ergometer, the ISS crew will exercise on CEVIS and download data. Depending on the data, it is possible that BME may request the old ergometer/cable stay on ISS. In this case, we will direct you to retrieve items 726.1 and 726.2 from the CTB and transfer them to ISS.

A2: Rack Front Tray strap reconfiguration for MISSE return: 10 straps need to be removed from the two bottom SF rack fronts to accommodate MISSE PECs for return. Please stow these straps in Return Bag 743 along with the EVA Tools 2 mesh bag (item 743.1).

A3: <u>Item 803 (CWC s/n 1078):</u> We told you today that this CWC was not yet ready to pack. We've since learned that water was removed from this CWC on FD9. It is ready to be packed now.

Page 4 of 7

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A4: Item 714 (Mt Mesh Bag): You asked if this needed to be at the bottom of this Bag C for return. This is not necessary. We expect it'll be very empty and MDDK Stow is okay with anywhere you put it in that bag.

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For today - FD11 (EVA4/Hatch Closure)

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Middeck

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 - Item 801: CEVIS Resupply Kit to MA9J after CEVIS calibration
 Item 803: Add CWC s/n 1078 to Bag H
 - Item 701: Stow БОК-3 Hardware in Bag C
 - Items 4 (Dave): Deactivate and transfer AFD PCS from MDDK to ISS
 - Items 708, 709 (Rick/Dave): Return EMUs to MDDK
 - Items 711-715 (Rick/Dave): Return EVA bags of stuff to MDDK
 - Items 1, 47, 704, 705: Swap 2 STS DCS 760 cameras with ISS cameras
 - Items 423 and subs (Clay): Pack P/TV items after final EVA
 - Items 706, 707 (Clay): Return coldbags from LAB containing samples to MDDK
 - Item 2 (Oleg): Transfer extra o-rings and braycote to ISS during Hatch Close

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Spacehab

- Item 144 (lost CTB): Transfer to ISS if found.
- Item 634 Stow Clay's crew preference bag at FS12
- Items 726, 726.1, 726.2: Transfer old CEVIS Ergometer tower and display cable to SH after removal of old CEVIS.
- Items 754, 754.2, 754.3: Finish up Water CTB #1 and strap to FC05
- Items 132.2, 729: Return Seed Bag back into EPO 1.0 CTB at FC07
- Item 101 (Dave): Deactivate and transfer SH PGSC from SH to ISS.
- Item 743.2 (Rick/Dave): Remove EVA handrails from item 743.1 and stow in MDDK Bag B
- Items 733, 734 (Tracy/Barb): Configure MISSEs for return; stow on rack fronts in SH
- Items 732, 732.1 (Tracy/Barb): Pack up MISSE clamps in 0.5 CTB
- Items 743, 743.1 (Rick/Dave): Add EVA Tools 2 mesh bag to 3.0 CTB at AC04

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Please update the Middeck Transfer List as follows:

38 In **SWAP** tab: 39 Replace Swar

Replace Swap Page 1

40 41

Please update the Spacehab Transfer List as follows:

42 43

In **RETURN** tab:

44 Replace Return Page 2345 Replace Return Page 25

46 47

Please call us with questions.

48 49 - The Transfer Team

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STS-118/13A.1

Swap

Oh m	ED		0	14 44	Swap						DDOOEDUDEO/Comptosinto/ **Community
Chg Flag	FD	☑	Crew Initials	item #	Item Name	Qty	Initial Stowage	Temp Stowage	Stowage at Undock	Wt (lbs)	PROCEDURES/Constraints/ **Comments
			Mddk S	waps			3				
			Camera								
x				1	DCS 760 camera body [p/n -304, s/n <u>1017</u> 1018]	1	A16 (in camera bag)	MDDK	ISS Deployed (Crew pref)		**This camera was used for ET photos. **Only the camera body transfers. Remove battery, cards and flash unit from this camera. They will be installed on returning DCS 760 camera body (item 704). **Batteries, cards, and flash units from returning DCS 760 camera body (item 704) will be installed on this camera body. **Do not transfer lens with camera.
				704	DCS 760 camera body [p/n -302, s/n 1015]	1		ISS deployed	A16 (in camera bag)		**Transfer on Hatch Closure day so camera can be used for docked ops. **Only the camera body transfers. Remove battery, cards and flash unit from this camera. They will be installed on new DCS 760 camera body (item 1). **Batteries, cards, and flash units from new DCS 760 camera body (item 1) will be installed on this camera body. **Do not transfer lens with camera.
x				47	DCS 760 camera body [p/n -304, s/n 1041]	1	VOL 3B	MDDK	ISS Deployed (Crew pref)	3.65	**Only the camera body transfers. Remove battery, cards and flash unit from this camera. They will be installed on returning DCS 760 camera body (item 705). **Batteries, cards, and flash units from returning DCS 760-camera body (item 705) will be installed on this camera body. **Do not transfer lens with camera.
x				705	DCS 760 camera body [p/n -302, s/n 1039] [THIS CAMERA IS USED ON EVA 4]	1		ISS deployed	VOL 3B		Do not transfer until after ISS crew timelined activity P/TV-EVA DSC-RECNFG. **Transfer on Hatch Closure day so camera can be used for docked ops. **Only the camera body transfers. Battery, cards and flash unit removed from this camera per P/TV-EVA DSC-RECONFG and stowed on ISS. Remove Battery, cards and flash unit from this camera. They will be installed on new-DCS 760 camera body (item 47). **Batteries, cards, and flash units from new DCS 760 camera body (item 47) will be installed on this camera body. **Do not transfer lens with camera.

STS-118/13A.1

Return

	Return										
Chg Flag	FD	Ø	Crew Initials	Item #	Item Name	Qty	Initial Stowage	Temp Stowage	Stowage at Undock	Wt (lbs)	PROCEDURES/Constraints/ **Comments
х				743	Return Bag 743 ANITA AIR FLUSHING UNIT	3.0 CTB	SF14	SH Temp Stow NOD1D2 Port Side	AC04	6.20	**This bag launched containing ANITA Air Flushing Unit (ref item 184) .
х				743.1	EVA Tools 2	1 mesh bag		Equipment Lock	AC04		Do not stow until handrails are removed (ref item 743.2). **Configured per EVA TOOL PREP FOR TRANSFER TO SHUTTLE and transferred per EVA TOOL TRANSFER TO SHUTTLE. **Leave all contents in mesh bag when stowing in 3.0 CTB. **Ref dwg in LAYOUTS tab.
х				743.2	EVA LAB Handrails - 24" [s/n 1388, 1389]	2		Equipment Lock (in mesh bag)	MD CEIL STBD 2 (Bag B)		**Remove from EVA Tools 2 mesh bag (ref item 743.1) and stow in MDDK for return.
	8	I		744	Return Bag 744 SAMPLE/PURGE KIT-1 24x24" ZIPLOCK BAG-2 CWC-1 [empty 0.5 CTB]	0.5 CTB	FC11	MDDK	AS01 (in 5 MLE)	2.76	**This CTB launched at FC11 (ref item 133) and was emptied during docked ops.
	8	Ø		745	Return Bag 745 S-Band Transponder - 1 MISSE PEC Inner Bag - 2 24"x24" Ziplock Bag - 4	1.0 CTB	PF16	NODE	AC13		**CTB carried up new transponder (ref item 160) and was temp stowed in NODE. CTB will contain old transponder for return (ref item 745.1).
	8	Ø		745.1	S-BAND TRANSPONDER [old]	1		Equipment Lock	AC13 (in 1.0 CTB)	42.76	**Retrieve from equip lock after EVA3 and pack in foam/CTB from new transponder (ref item 745) temp stowed in NODE.
	7		See Swap Tab - SAFER	746	SAFER [old, s/n 1003]	3.0 CTB	A/L1 Crewlock (SAFER STOWAGE BAG S/N 1012)		See Swap Tab - SAFER	93.93	
	7	Ø	See Swap Tab - Window	747	SCRATCH PANE ASSEMBLY [old]	1 foam box	LAB1D3 installed		See Swap Tab - Window	17.80	

STS-118/13A.1

Return

	Return										
Chg Flag	FD		Crew Initials	Item #	Item Name	Qty	Initial Stowage	Temp Stowage	Stowage at Undock	Wt (lbs)	PROCEDURES/Constraints/ **Comments
				754	Water Transfer #1	0.5 CTB	NOD1D2		FC05		**0.5 CTB s/n 1069 was pregathered, labeled and staged by ISS crew on NOD1D1.
х	10	Ø		754.1	Sample/purge kit [s/n 1005]	1	FC11 (in 0.5 CTB)	MDDK	FC05 (in 0.5 CTB)		**This kit launched in SH (ref item 133) and was used on mddk for CWC fills. **Verify ACTEX SAMPLE ADAPTER and qty 5 WATER SAMPLING KIT Assemblies have been removed from kit and transferred to ISS per Water Ops Cue Card prior to stowing in CTB. **Crew stowed the ACTEX SAMPLING ADAPTER inside the lid of 1.0 CTB s/n 1372 (and left a note for Clay). The 5 Sampling Bags were stowed in a ziplock with a note to Clay at LAB106 rack front.
				754.2	Silver Biocide kit [s/n 1001]	1	NOD1P2 in mesh bag above 'Water Wall'	MDDK	FC05 (in 0.5 CTB)		**This kit was retrieved from ISS per Water Ops Cue Card and returns in SH. Stow in SH after water ops are complete.
х				<u>754.3</u>	Vacuum Cleaner Bag [used] [p/n SEG39123308-302]	1	Inside vacuum cleaner deployed in NODE		FC05 (in 0.5 CTB)		**Swap used bag currently installed in ISS Vacuum Cleaner with new bag (ask ISS crew for location). **Before packing used bag for return, stow Vacuum Cleaner Bag in 2 empty 24x24 ziplocks retrieved from Subsystem Stow 5 at AC11.

15-0991 (MSG 119) – EVA 4 Big Picture Words

Page 1 of 2

- 1 Our plan for today's EVA remains as discussed yesterday. We are targeting a 4:30 EVA
- 2 PET, but the duration will ultimately be constrained by the requirement to achieve hatch
- 3 closing by the end of FD11. You can execute off of yesterday's MSG 105 (15-0976) for the
- 4 detailed EVA timeline up through EWIS ANTENNA INSTALL, then skip to EVA 4
- 5 CLEANUP/INGRESS. There are a few additional items you need to be aware of that impact
- 6 the EVA itself as well as EVA transfers.

7 8

Airlock O2 Config

- 9 Due to time constraints, we have scheduled Joint Ops 3.122 Prebreathe Using Shuttle O2
- 10 Teardown just after C/L Depress. During this teardown, oxygen will not be available to the
- 11 O2 Hi P system for EVA usage. However, as soon as the O2 Xover VIv (VL011) is closed in
- step 2.2, the O2 Hi P (VL010) manual valve can be opened to provide immediate oxygen to
- the EV crewmembers.

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- In other words, once the O2 Prebreathe Teardown is started, if oxygen is needed for EVA usage, perform the following:
- 17 1) √VL011 (O2 Xover VIv) CLOSED
 - 2) VL010 (O2 Hi P) → OPEN

19 20 21

Comm Impacts for EWIS Install

During EWIS ANTENNA INSTALL, the audio Big Loop will be disconnected for approximately two hours due to SSSR deactivation and the docked hardline DAIU A/G #1 failure.

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From GMT 230/15:45 - 17:35, the Shuttle IV crew will have direct comm with the EVA crew using A/G #1 and the SSOR. ISS IV crew will have direct comm with the EVA crew using the drag-thru BPSMU configured for A/G #1. During this timeframe, Station and Shuttle Capcoms will be using A/G1 for all EVA calls.

29 30 31

The following Pen and Inks are required to MSG 105 (15-0976) (EVA 4 Detailed Timeline)

32 33

1. On Page FS 7-100, EWIS ANTENNA INSTALL box:

34 35

WAS:

IV A1R 2. AUD CTR SL A/G 1 - ON

36 37 38

IS:

IV AW18D AIRLOCK AUDIO A/G 1 - T/R

40 41

39

2. On page FS 7-113, under the IV/RMS Column:

42 43

WAS:

44 45 Due to Big Loop Reconfigurations, if COMM is required between ISS IV and EV crew, recommend using drag-thru BPSMU with shuttle ATU configure to A/G 1.

and EV crew, use the drag-thru BPSMU. Shuttle Airlock ATU is configured to A/G 1.

Due to DAIU A/G 1 failure and SSSR Deactivation, if COMM is required between ISS IV

46 47

IS:

48 49

49 50 51

Page 1 of 2, 15-0991 (MSG 119)

15-0991 (MSG 119) – EVA 4 Big Picture Words Page 2 of 2

3. On Page FS 7-113, under the IV/RMS Column: WAS: IV A1R AUD CTR SL A/G 1 - ON AW18D AIRLOCK AUDIO A/G 1 - T/R 4. On Page FS 7-113, under the IV/RMS Column: **DELETE**: Big Loop Commm is via hardline 5. On Page FS 7-114, under the IV/RMS Column: WAS: IV A1R 2. AUD CTR SL A/G 1 - OFF IV AW18D AIRLOCK AUDIO A/G 1 - OFF EMU and Tool Preps/Transfer We have broken up the EMU and EVA Tool Prep and Transfer activities to allow some of the work to be done during the EVA. Reference 15-0992 (MSG 120) for the new EMU plan and 15-0993 (MSG 121) for the new EVA Tool plan.

Post EVA Procedure Deltas

We will not be performing Metox Regeneration or EMU Water Recharge during 1.240 POST EVA. The Flight Plan identifies the steps to omit, but as a quick reference, you can omit steps 38-40, 52, 65-67.

15-0992 (MSG 120) – EMU Prep and Transfer Update Page 1 of 1

1 2	During EVA 4:
3 4	Perform the following steps from <u>EMU PREP FOR TRANSFER TO SHUTTLE</u> (EVA, AIRLOCK CONFIG)
5	THREGOR GOTT TO
6	1) Perform steps 1 - 3, 5 - 6, and 8 for EMU 3015 (Mastracchio).
7	Note: Step 4 will not be completed.
8	In Step 6, Helmet s/n 1066 will now be coming home on 'Mt' EMU 3015.
9	2) Perform step 9 as written
10	3) Perform step 10 and 11, for EMU Servicing Kit s/n 5005 only as written
11	4) Perform Step 13, Delta Only: Remove Helmet Lights s/n 1004 & 1006 from 'EVA
12	Systems 2' mesh bag, and stow on ISS.
13	5) Perform step 14 as written
14	6) Perform step 15 for EMU 3015 (Mt), and Mesh Bag (Mt)
15	
16	Transfer EMU 3015 (Mt), and Mesh Bag (Mt) to shuttle per EMU TRANSFER TO SHUTTLE
17	(EVA, <u>AIRLOCK CONFIG</u>)
18	
19	Doot EVA 4:
20 21	Post EVA 4: Perform the following steps from EMU PREP FOR TRANSFER TO SHUTTLE (EVA,
21 22	AIRLOCK CONFIG)
22 23	AINLOCK CONI IG)
24	1) Perform steps 1 - 3, 5, 7, and 8 for EMU 3017 (Williams).
25	Note: Step 4 will not be completed
26	In Step 7, Helmet s/n 1071 will now be coming home on 'Wm' EMU 3017.
	2) Perform step 10 and 11, for EMU Servicing Kit s/n 5004 only as written
28	3) Perform Step 13, Delta Only: Locate EMU Helmet Lights s/n 1005 & 1010 on ISS (used
29	for EVA 4), and place in 'EVA Systems 2' mesh bag.
30	4) Perform step 15 for EMU 3017 (Wm), Mesh Bag (Wm), Mesh Bag (Ad), and Mesh Bag
31	(EVA Systems 2)
32	
33	
34	Transfer EMU 3017 (Wm), Mesh Bag (Wm), Mesh Bag (Ad), and Mesh Bag (EVA Systems
35	2), to Shuttle per EMU TRANSFER TO SHUTTLE (EVA, AIRLOCK CONFIG)

15-0993 (MSG 121) – EVA Tool Prep and Transfer Update Page 1 of 1

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Due to early hatch closure we would like you to gather as many items for Tool Transfer during EVA 4 as possible, keeping in mind that most items will be inaccessible until after the EVA. Due to tasks being dropped from EVA 4, the following items will not be returning and can be lined out in EVA TOOL PREP FOR TRANSFER TO SHUTTLE, pg FS 2-14:

• Adj Equipment Tethers (6)

WETA Shroud

VSSA Dummy Box

We also have some updates to EVA TOOL TRANSFER TO SHUTTLE on FS 2-15:

• For the Mesh Bag (EVA Tools 2), second column of the table: change the TBDs to "AC04 inside 3.0 CTB"

• The stowage folks have informed us that there is also room in this location to accommodate the S5 launch locks and soft capture pins that are considered trash.

• For the Lab HRs, reference the Middeck Transfer List, Item 743.2.

Page 1 of 22 pages

OBJECTIVE:

To remove and replace CEVIS Ergometer and CEVIS Display Cable. Note: Ops Nom and Labeling on two parts is changing this flight. Table A is provided below to indicate the equivalent nomenclature.

Table A: Ops Nom Labeling Changes

Old Unit Labeled:	New Unit Labeled:
CEVIS Ergometer Assy.	CEVIS Ergometer
Ergometer Display Cable Assembly	CEVIS Display Cable

PARTS:

CEVIS Isolator Kit CEVIS Ergometer CEVIS Display Cable

MATERIALS:

Mesh Bag
Dry Wipes
Braycote
Gray Tape
Surgical Gloves (one pair)
Cotton Swab (one)
Ziplock
Sharpie

TOOLS:

CEVIS Accessory Kit: **CEVIS Bio Bag** Clamping Fork Hardmounted Components Bio Bag Pedal Wrench Push Rod DCS 760 Camera ISS IVA Toolbox: Drawer 2: 3/16" Hex Head, 3/8" Drive 6mm Hex Head. 3/8" Drive Ratchet, 3/8"Drive 6" Ext, 3/8"Drive (10-50 in-lbs) Trq Wrench, 1/4" Drive 1/4" to 3/8" Adapter Drawer 3: (200-1000 in-lbs) Trq Wrench, 3/8" Drive

1. <u>UNPLUGGING CEVIS</u>

1.1 If necessary, remove Therabands from CEVIS and stow in Mesh Bag.

WARNING

Failure to remove power will result in an electrical shock hazard.

Page 2 of 22 pages

- 1.2 √CEVIS Ergometer Power Switch Off
- 1.3 UOP 5 J4 PS-120 J1 \rightarrow Off

NOTE

Two cables will be disconnected in the following steps. Each cable end and each port will have a cap. Caps should be replaced as each cable is disconnected.

- 1.4 CEVIS Power Cable Assembly ← → UOP 5 J4 PS-120 J1
- 1.5 CEVIS Power Cable Assembly $\leftarrow \mid \rightarrow$ Power port on CEVIS Ergometer

Replace all caps (four).

Stow CEVIS Power Cable Assembly in Mesh Bag.

1.6 Controller port on CEVIS Ergometer Assy $\leftarrow \mid \rightarrow$ Ergometer Display Cable Assembly $\leftarrow \rightarrow port$ on left side of CEVIS Display/Control Panel

Replace all caps (four).

Temporarily Stow Ergometer Display Cable Assembly for return.

- 1.7 Leave CEVIS Display/Control Panel attached to Bogan Arm. Position Bogan Arm to ensure CEVIS Display/Control Panel touchscreen will not be damaged.
- 1.8 If CEVIS is in stow position

Release Velcro straps on CEVIS Ergometer to frame Rotate CEVIS Ergometer 90 degrees to the upright deployed position.

Pull down on cover of QDs to close.

Tighten knobs on Mounting Blocks.

NOTE

The CEVIS Isolators will be removed to hardmount CEVIS in order to apply the recommended torques and avoid damaging the Isolators.

2. REMOVING CEVIS FROM ISOLATORS

2.1 Remove any hardware located under CEVIS Frame. Temporarily stow.

Page 3 of 22 pages

2.2 On any CEVIS Frame corner, CEVIS Frame QD ←|→ Isolator Mushroom Stud Isolator QD ←|→ Stud on Seat Track Adapter Refer to Figure 1.

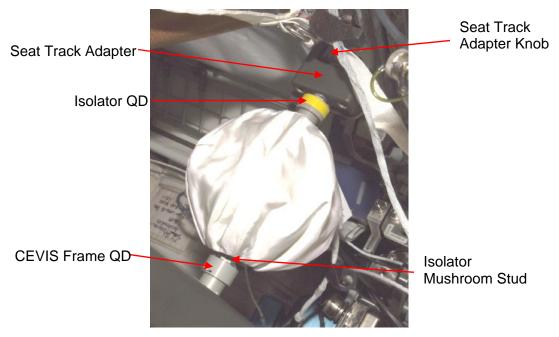
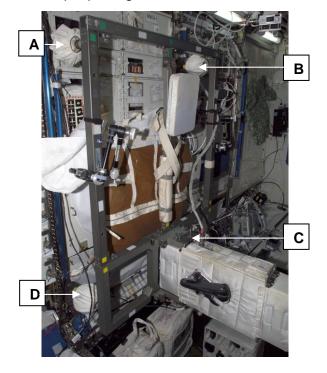


Figure 1.- CEVIS Isolator and Seat Track Adapter.

2.3 Check yellow tape on CEVIS Isolator QDs for Letter designation. If Isolators are not labeled, label yellow tape on each Isolator with Sharpie per Figure 2.



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Figure 2 - Isolator Reference

- Close Isolator QD.
 Stow Isolator in CEVIS Isolator Kit.
- 2.5 Repeat steps 2.2 to 2.4 for remaining Isolators (three).
- 2.6 CEVIS Frame Assembly QDs (four) \rightarrow | \leftarrow Studs on Seat Track Adapters

3. REMOVING CEVIS ERGOMETER

3.1 On CEVIS Ergometer, remove Left (blue) and Right (red) Pedal Cranks (Pedal Wrench).

Stow Left and Right Pedal Cranks in Mesh Bag.
Refer to Figure 3.

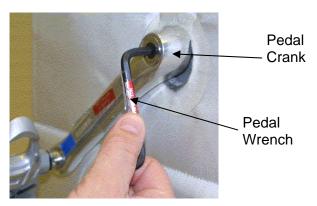


Figure 3.- Removing Pedal Crank.

3.2 Turn Manual Control Knob counterclockwise and remove. Stow Manual Control Knob in CEVIS Accessory Kit.

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3.3 Detach PIP pin from Velcro on Red IVIS Box Acoustic Cover. Refer to Figure 4.

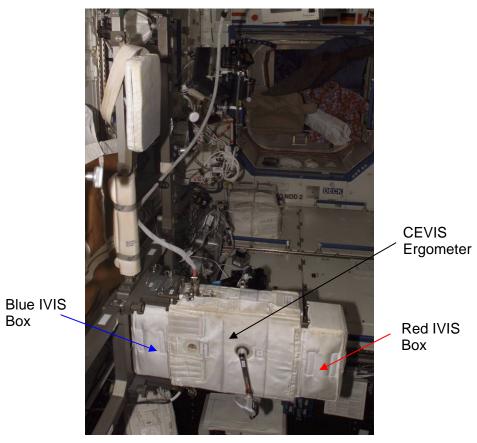


Figure 4.- CEVIS Ergometer with IVIS Boxes installed.

3.4 Remove Acoustic Cover from Red IVIS Box. Stow Red IVIS Box Acoustic Cover in Mesh Bag.

NOTE

Each IVIS box is attached with 4 fasteners. Three of the fasteners are captive. The remaining fastener is tethered to the PIP Pin.

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3.5 Unfasten Red IVIS Box captive fasteners (three) (Ratchet, 3/8" Drive; 6" Ext, 3/8" Drive; 6mm Hex Head, 3/8" Drive). Refer to Figure 5.

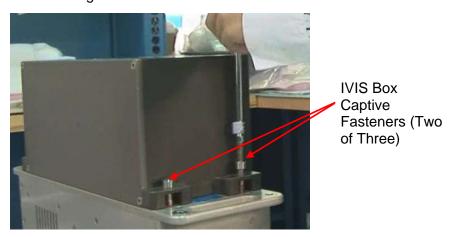


Figure 5.- Unfastenening IVIS Box Captive Fasteners.

3.6 Remove noncaptive fastener (one) tethered to PIP pin from red hole on Red IVIS Box (Ratchet, 3/8" Drive; 6" Ext, 3/8" Drive; 6mm Hex Head, 3/8" Drive).

Temporarily affix PIP Pin to Top of IVIS Box with Velcro.

CAUTION

The IVIS Box contains a fork that is mechanically engaged to a guide rod on top of the Ergometer. Care should be taken when removing the IVIS Box to prevent damage to the fork and guide rod.

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3.7 Remove Red IVIS box.

Disengage fork on bottom of Red IVIS Box from Guide Rod on CEVIS Ergometer.

To proper align tilt the IVIS Box with the Yellow Insert pointing up (away from Ergometer) during removal.

Refer to Figure 6, 7.



Fork on Bottom of IVIS Box.

Guide Rod

Figure 7. - Fork and Guide Rod.

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3.8 Insert Push Rod into yellow insert on side of IVIS Box to move throw mass to one side.Refer to Figure 8.

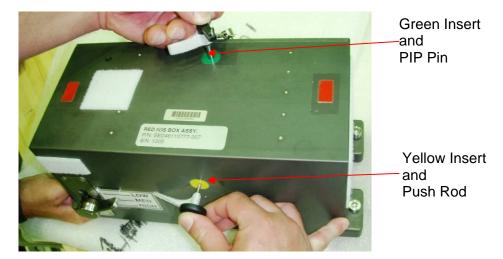


Figure 8.- Yellow Insert of IVIS Box.

- 3.9 Insert PIP pin into green insert to lock throw mass in place.Refer to Figure 8.Remove Push Rod and Temporarily Stow.
- 3.10 Stow Red IVIS Box with PIP Pin in Mesh Bag.
- 3.11 Remove Acoustic Cover from CEVIS Ergometer. Stow Acoustic Cover in Mesh Bag. Refer to Figure 9.

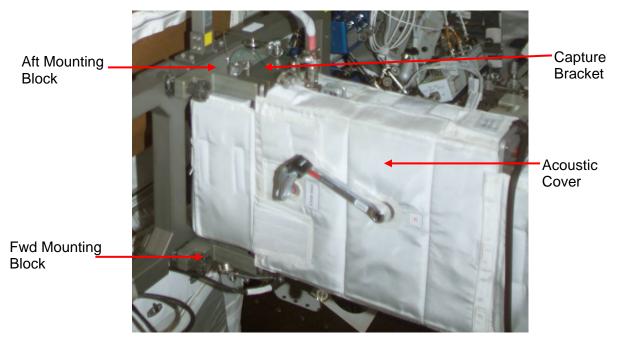


Figure 9.- CEVIS Ergometer Mounting Block and Capture Bracket.

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- 3.12 Place a strip of gray tape on the Aft Capture Bracket. Refer to Figure 9.
- 3.13 Engage Clamping Fork onto one Locating Pin above Capture Bracket on Fwd Mounting Block.

Apply upward force on end of Clamping Fork handle, remove tethered PIP pin.

Refer to Figures 9 and 10.

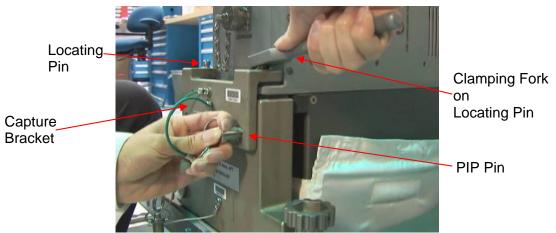


Figure 10.- Removing Capture Bracket PIP Pin.

- 3.14 Repeat step 3.13 for remaining Capture Bracket PIP Pin on Fwd Mounting Block.
 - Slide Capture Bracket off Locating Pins to remove.

Temporarily stow Capture Bracket in Mesh Bag.

- 3.15 Repeat steps 3.13 and 3.14 to remove Capture Bracket from Aft Mounting Block.
- 3.16 Remove CEVIS Ergometer with Blue IVIS Box attached from Locating Pins.

Invert CEVIS Ergometer 180 degrees and set on Locating Pins with Controller port still facing seat.

- 3.17 Repeat steps 3.3 to 3.10 to remove Blue IVIS Box.
- 3.18 Lift CEVIS Ergometer off Locating Pins.
 Temporarily stow CEVIS Ergometer Assy. for return.

4. REMOVE MOUNTING BLOCKS

NOTE

Mounting Block Retainer Fastener is not captive to Retainer.

Page 10 of 22 pages

4.1 Unfasten Aft Mounting Block Retainer Fastener [Ratchet, 3/8" Drive;
3/16" Hex Head, 3/8" Drive;
Leave Fastener threaded in Retainer.
Refer to Figure 11.



Figure 11.- Aft Mounting Block with Retainer.

- 4.2 Release Aft Mounting Block Assembly QD on Fwd Frame Assembly.

 Turn knob counterclockwise to loosen.
- 4.3 Rotate Aft Mounting Block, and carefully slide Aft Mounting Blocks off Guide Pin. Temporarily stow Aft Mounting Block.
- 4.4 Repeat Steps 4.1 to 4.3 for Fwd Mounting Block.

NOTE

During ULF1.1 a Mounting Block Retainer and Fastener was inadvertantly installed on the Fwd Mounting Block. This Retainer and Fastener are not needed and will not be reinstalled.

4.5 Place Fwd Mounting Block Retainer and Fastener in Ziplock.
Label ziplock "CEVIS Retainer"
Temporarily Stow "CEVIS Retainer" ziplock in Mesh Bag.

Page 11 of 22 pages

5. INSPECTING GUIDE PINS AND BUSHINGS FOR DAMAGE

5.1 Photodocument (DCS 760 Camera) Braycote remaining on Fwd and Aft Guide Pin surfaces on Fwd Frame Assembly.

Refer to Figure 12.

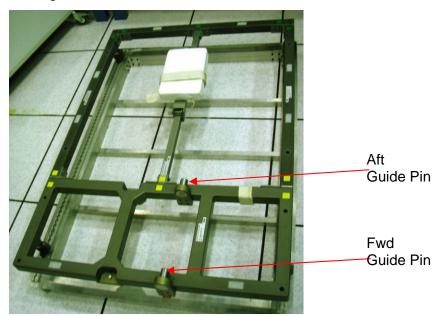


Figure 12.- CEVIS Frame Assembly.

5.2 Photodocument (DCS 760 Camera) Braycote remaining on Fwd and Aft Mounting Block Assembly Bushing Surface. Refer to Figure 13.



Figure 13.- Mounting Block Assembly.

5.3 Inspect Fwd and Aft Guide Pin surfaces on Fwd Frame Assembly for any signs of damage.

Inspect Bushing Surface on Fwd and Aft Mounting Block Assembly for damage.

ISS **MCC-H** of any damage found.

6. APPLYING BRAYCOTE AND INSTALLING MOUNTING BLOCKS

6.1 Don Surgical Gloves.

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CAUTION

Particulates present between the Guide Pin and Mounting Block Assembly Bushing Surface will lead to damage when rotating the joint for stowage of the CEVIS Ergometer.

- 6.2 Clean both Guide Pin surfaces of any debris (Dry Wipe). Clean Fwd and Aft Mounting Block Assembly Bushing Surface of any debris (Dry Wipe).
- 6.3 Apply three thin beads of Braycote approximately 120 degrees apart along both Guide Pin surfaces.
 Refer to Figure 14.

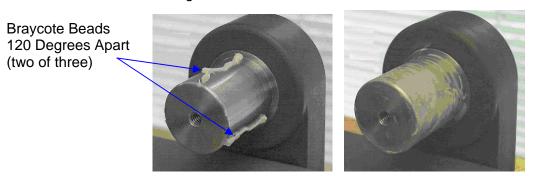


Figure 14.- Fwd Frame Assembly Guide Pin with Braycote applied and spread.

- 6.4 Spread Braycote evenly over both Guide Pin surfaces until a thin layer of Braycote is visible. Refer to Figure 14.
- 6.5 Apply one heavy bead of Braycote along Bushing Surface of Fwd Mounting Block.
 Refer to Figure 15.

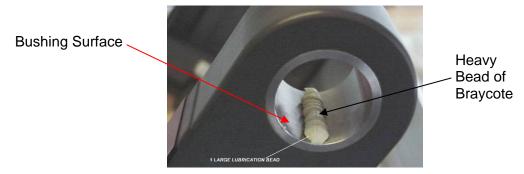


Figure 15.- Mounting Block Assembly Bushing Surface.

- 6.6 Spread Braycote evenly over Bushing Surface until a thin layer of Braycote is visible.
- 6.7 Ensure no particulates are introduced to joint between Guide Pin and Mounting Block Assembly Bushing Surface.

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6.8 Carefully slide Fwd Mounting Block Assembly onto Fwd Guide Pin. Refer to Figure 16.

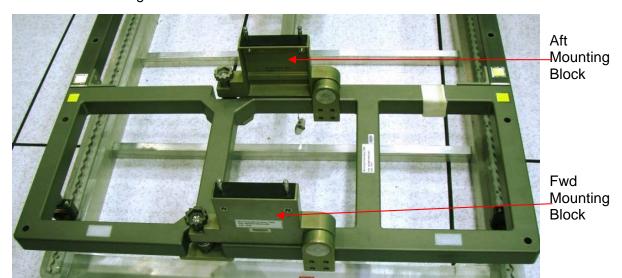


Figure 16.- Mounting Block Assembly Bushing Surface.

6.9 Rotate Fwd Mounting Block Assembly around Fwd Frame Guide Pin and move laterally along Fwd Frame Guide Pin axis several times to spread Braycote evenly between Guide Pin and Bushing Surface.

WARNING

When tightening down the knob on the Mounting Block Assemblies, be careful of pinch points between the knob and the Mounting Block Assembly.

6.10 Fwd Mounting Block Assembly QD → |← Stud on Fwd Frame Assembly Tighten knob until QD snug. Refer to Figure 17.

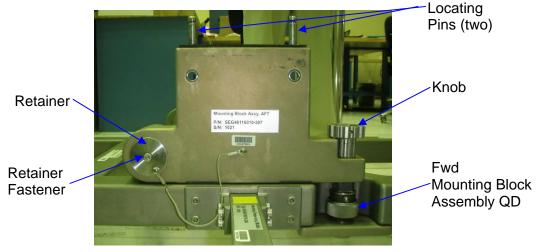


Figure 17.- Aft Mounting Block Assembly.

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- 6.11 Remove any excess Braycote around joint of Fwd Mounting Block Assembly (Dry Wipe).
- 6.12 Repeat steps 6.5 to 6.11 to lubricate and install Aft Mounting Block Assembly.
- 6.13 Install Retainer on Aft Mounting Block Assembly. Refer to Figure 17.
- 6.14 Tighten, torque Retainer fastener to 26 in-lbs [(10-50 in-lbs) Trq Wrench, 1/4" Drive; 1/4" to 3/8" Adapter; 3/16" Hex Head, 3/8" Drive].
- 6.15 Clean Locating Pin surfaces (two each) on Fwd and Aft Mounting Block Assemblies of any debris (Dry Wipe). Refer to Figure 17.
- 6.16 Apply a thin bead of Braycote to shafts of Locating Pins (four).

 Ensure Braycote does not get into grooves on top of Locating Pins.

 Refer to Figure 18.

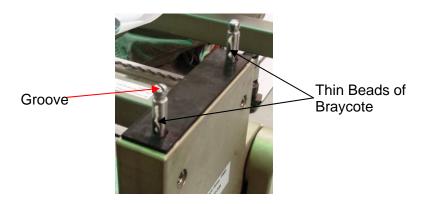


Figure 18.- Thin Beads of Braycote on Shafts of Locating Pins.

- 6.17 Spread Braycote evenly over Locating Pins until a thin layer of Braycote is visible.
- 6.18 Doff Surgical Gloves.
 Discard Gloves.

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7. CEVIS ERGOMETER INSTALLATION

NOTE

- 1. CEVIS Ergometer should not be forced onto Locating Pins.
- 2. To aid in installation of the Pedal Cranks and Blue IVIS Box the CEVIS Ergometer will be temporarily set on the Locating Pins.
- 3. Left side is marked on the Ergometer and on the Acoustic Blanket with a Blue "L". Right side is marked on the Ergometer and Acoustic Blanket with a Red "R".
- 7.1 Place CEVIS Ergometer, blue end up, on Locating Pins of Mounting Block Assemblies (two) with Controller port facing Ergometer seat. Refer to Table A.

Table A: Ops Nom Labeling Changes

Old Unit Labeled:	New Unit Labeled:
CEVIS Ergometer Assy.	CEVIS Ergometer
Ergometer Display Cable Assembly	CEVIS Display Cable

7.2 Install CEVIS Ergometer Acoustic Cover onto CEVIS Ergometer.
Ensure Velcro attach points of Acoustic Cover are snug fit.
Ensure vent covers (three) on Acoustic Cover are cupped to allow air flow.

Refer to Figure 19.



Figure 19.- Cupped Acoustic Vent Cover.

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7.3 On left side of CEVIS Ergometer, install Left (blue) Pedal Crank. Align flat groove of Pedal Crank with set screw on crank shaft. Refer to Figure 20.

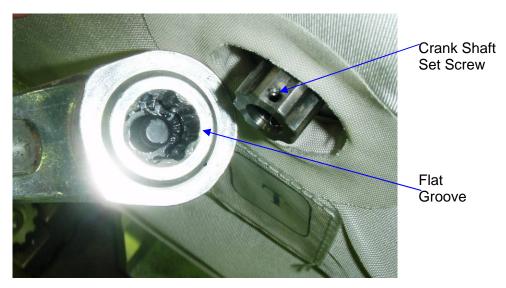


Figure 20.- Flat Groove on Pedal Crank.

- 7.4 Tighten, torque Pedal Crank fastener to 27 in-lbs [Pedal Wrench, (10-50 in-lbs) Trq Wrench, 1/4" Drive; 1/4" to 3/8" Adapter; 6mm Hex Head, 3/8" Drive].
- 7.5 Install Right (red) Pedal Crank 180 degrees from opposite pedal.
- 7.6 Tighten, torque Right Pedal Crank fastener to 27 in-lbs [Pedal Wrench, (10-50 in-lbs) Trq Wrench, 1/4" Drive; 1/4" to 3/8" Adapter; 6mm Hex Head, 3/8" Drive].

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7.7 Turn Pedal Crank until Guide Rod on top of CEVIS Ergometer is at fully retracted positiion. Refer to Figure 21.

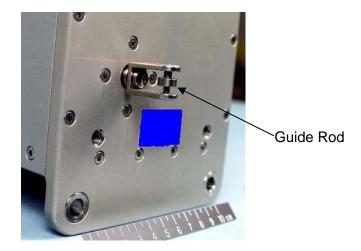


Figure 21.- Guide Rod on CEVIS Ergometer at fully retracted position.

NOTE

Care should be taken when installing the IVIS Box. The IVIS Box contains a fork that is mechanically engaged with a guide rod on top of the Ergometer. Proper alignment requires tilting the IVIS Box with the yellow insert pointing up (away from Ergometer) during installation.

7.8 Match blue labels on Blue IVIS Box with blue labels on CEVIS Ergometer.

Engage Guide Rod on top of CEVIS Ergometer into fork on bottom of IVIS Box.

Refer to Figure 22.

Lower IVIS Box onto CEVIS Ergometer aligning captive fasteners with fastener holes.



Figure 22.- Engaging Guide Rod with IVIS Box Fork.

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7.9 Insert Push Rod into yellow insert on side of IVIS Box. Refer to Figure 23.

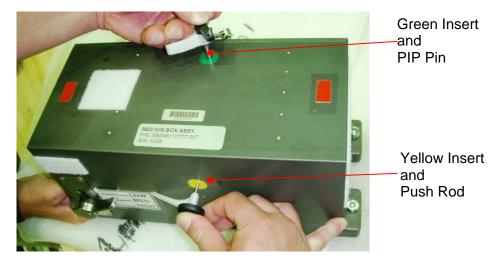


Figure 23.- Yellow Insert of IVIS Box.

- 7.10 Remove PIP Pin from green insert on top of IVIS Box. Remove Push Rod and Temporarily Stow.
- 7.11 Insert noncaptive fastener tethered to PIP pin into blue hole on Blue IVIS Box. If needed, turn CEVIS pedal to raise Guide Rod and align fasteners.
- 7.12 Tighten, torque IVIS Box captive and noncaptive fasteners (four) onto CEVIS Ergometer to 230 in-lbs [Ratchet, 3/8" Drive; 6" Ext, 3/8" Drive; 6mm Hex Head, 3/8" Drive; (200-1000 in-lbs) Trq Wrench, 3/8" Drive].
- 7.13 Install Blue Acoustic Cover onto Blue IVIS Box. Ensure Gain Selector Flap aligns with Gain Selector Knob. Attach tethered PIP Pin with Velcro to side of IVIS Box Acoustic Cover.
- 7.14 Remove CEVIS Ergometer from Locating Pins with Blue IVIS Box attached.
 - Invert CEVIS Ergometer 180 degrees and set on Locating Pins with Controller port still facing seat.

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7.15 Remove any excess Braycote around Bushings (four) on Red end of CEVIS Ergometer (Dry Wipe).
Refer to Figure 24.



Figure 24.- Bushings on Capture Bracket.

- 7.16 Apply a small amount of Braycote to tip of Cotton Swab.
- 7.17 Spread Braycote evenly over Bushing Surfaces (four each) of Capture Brackets (two), repeating step 7.16 as necessary. Refer to Figure 24.
- 7.18 Place Capture Bracket without Gray Tape onto Locating Pins (two) of Fwd Mounting Block Assembly so bracket is flush with Mounting Block Assembly.

Refer to Figure 25.

If needed open Acoustic Cover to access Locating Pins.

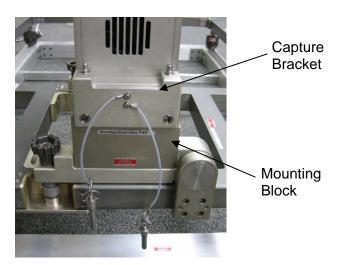


Figure 25.- Capture Bracket on Locating Pins.

7.19 Remove any excess Braycote around Fwd Mounting Block Assembly Locating Pins (Dry Wipe).

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7.20 Place Clamping Fork on one Locating Pin. Refer to Figure 26.

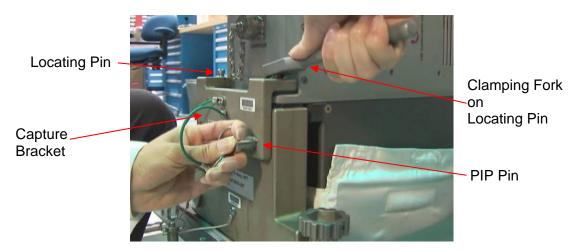


Figure 26.- Inserting Capture Bracket PIP Pin.

- 7.21 Apply upward force at end of Clamping Fork handle. Insert tethered PIP pin into hole on Capture Bracket.
- 7.22 Repeat steps 7.20 and 7.21 to insert other PIP pin on Capture Bracket.
- 7.23 Repeat steps 7.18 to 7.22 to install Capture Bracket with gray tape on Aft Mounting Block Assembly.
- 7.24 Repeat steps 7.7 to 7.13 to install Red IVIS Box and Acoustic Cover.

8. REINSTALLING ISOLATORS

- 8.1 CEVIS Frame Assembly QDs (four) $\leftarrow \mid \rightarrow$ Studs on Seat Track Adapter
- 8.2 Return any temporarily stowed items from step 2.1 back under the CEVIS Frame Assembly.

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8.3 On any CEVIS Frame corner

CEVIS Frame Assembly QD → ← Isolator Mushroom Stud

Match Letter on Isolator to position in Figure 27.

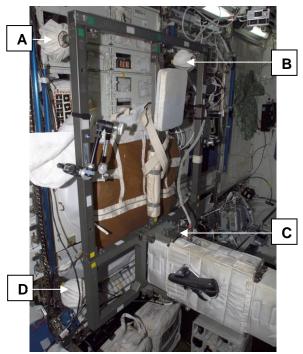


Figure 27 - Isolator Reference

- 8.4 Isolator QD \rightarrow \mid \leftarrow Stud on Seat Track Adapter
- 8.5 Repeat steps 8.3 and 8.4 for remaining three corners of CEVIS Frame Assembly.

9. REPOWERING CEVIS

- 9.1 √CEVIS Ergometer Power Switch Off
- 9.2 Remove the following caps:

Both ends of CEVIS Display Cable (two)
Both ends of CEVIS Power Cable Assembly (two)
Controller port on CEVIS Ergometer
Power port on CEVIS Ergometer
Port on CEVIS Display/Control Panel

- 9.3 Controller port on CEVIS Ergometer → |←CEVIS Display Cable → |← port on left side of CEVIS Display/Control Panel
- 9.4 If required, reattach Therabands to CEVIS.

WARNING

Failure to remove power will result in an electrical shock hazard.

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- 9.5 $\sqrt{\text{UOP}}$ 5 J4 PS-120 J1 \rightarrow Off
- 9.6 Power port on CEVIS Ergometer → |← CEVIS Power Cable Assembly → |← UOP 5 J4 PS-120 J1
- 9.7 UOP 5 J4 PS-120 J1→ On

NOTE

The first exercise session will serve as the checkout of the reassembly. Time will be scheduled before the activity to perform a Calibration of the Ergometer. The crewmember will be asked to notify **MCC-H** of anything unusual, such as noises, inappropriate loads, imbalanced system, banging on rack, etc.

- 9.8 Notify MCC-H of task completion.
- 9.9 Stow tools, equipment.

Stow per Stowage Note:
Ziplock labeled "CEVIS Retainer"
Mounting Block Retainer and Fastener
CEVIS Accessory Kit:
Manual Control Knob

Stow for return per Transfer List: Ergometer Display Cable Assembly CEVIS Ergometer Assembly

15-0787 (MSG 111) CEVIS - ERGOMETER AND DISPLAY/CONTROL PANEL CALIBRATION

(MED OPS/13A - ALL/FIN)

Page 1 of 2 pages

OBJECTIVE:

To calibrate the CEVIS Ergometer and CEVIS Display/Control panel. CEVIS protocols will also be transferred to PCMCIA card s/n 1026 during the procedure.

CAUTION

Procedure must only be performed at ground direction. Incorrect Calibration settings may cause CEVIS damage and/or failure.

- 1. TRANSFERRING FILES TO PCMCIA CARD
 - 1.1 On MEC Desktop, sel My Computer
 - 1.2 Insert CEVIS PCMCIA card into MEC
 - 1.3 Sel New Removable Disk Verify folder contains mission.sys, subject.sys, limit.sys, and cardid.svs.

- If folder does not contain these *.sys files, sel alternate
- Removable Disk until files are found.
- If files are still not found, contact MCC-H.

- 1.4 On MEC Desktop, open folder titled Calibration.
- 1.5 While holding down [Ctrl], sel entire contents of folder Sel Edit ► Copy.
- 1.6 In Removable Disk window. Sel Edit ► Paste
- 1.7 If 'Confirm File Replace' window appears, sel 'Yes to All'
- 1.8 Close all MEC windows.
- 1.9 Using PC Card Icon in Taskbar, stop Removable Disk identified in Step 1.3. Eject CEVIS PCMCIA card.
- 2. CALIBRATING CEVIS ERGOMETER
 - 2.1 √CEVIS OFF
 - 2.2 Insert CEVIS PCMCIA card into CEVIS Display/Control Panel. CEVIS→ ON.
 - 2.3 When CEVIS Display/Control Panel displays "Update Computer?" sel YES

15-0787 (MSG 111) CEVIS - ERGOMETER AND DISPLAY/CONTROL PANEL **CALIBRATION**

(MED OPS/13A - ALL/FIN)

Page 2 of 2 pages

2.4 When CEVIS Display/Control Panel displays 'Copy d:\calib.sys c:\innoergo\calib.sys' sel YES

- If CEVIS Display/Control Panel displays "Save Backup
- File?"
- Sel NO.

2.5 When ISS Ergometer screen is displayed on CEVIS Display/Control Panel.

CEVIS → OFF Eject CEVIS PCMCIA card.

- 3. <u>DELETING FILES ON PCMCIA CARD</u>
 - 3.1 Insert CEVIS PCMCIA card into MEC
 - 3.2 Sel New Removable Disk Verify folder contains mission.sys, subject.sys, limit.sys, and cardid.sys. Folder will contain other files.

- If folder does not contain these *.sys files, sel alternate
- Removable Disk until files are found.

If files are still not found, contact MCC-H.

- 3.3 While holding down [Ctrl], sel update.bat and calib.sys Sel [Delete].
- 3.4 Verify update.bat and calib.sys were deleted.
- 3.5 Verify folder contains mission.sys, subject.sys, limit.sys, and cardid.sys. Folder may contain *.pro files.
- 3.6 Using PC Card Icon in Taskbar, stop Removable Disk identified in Step 3.2. Eject CEVIS PCMCIA card.
- 3.7 Leave MEC in desired configuration.

NOTE

The first exercise session will serve as the checkout of the reassembly. The crewmember will be asked to notify MCC-H of anything unusual, such as noises, inappropriate loads, imbalanced system, banging on rack, etc.

3.8 CEVIS checkout may now be performed.

15-0987 (MSG 115): Stowage Locations for Sat PLAN (GMT 230, FD11)

Page 1 of 6

Contents:

Timeline Procedures:

CEVIS-R&R
CMS-CEVIS-CAL
O2-XFER-TEARDOWN
DCB1-13A.1-PACK
DCB2-13A.1-PACK
HATCH-CLOSE
P/TV-EVA DCS-RECNFG

Timeline Procedures:

CEV	CEVIS-R&R						
15-0	786 CEVIS - ERGOME	ETER R&R					
Type: Standard			IMS Plan: No				
#	LOCATION	ITEM NAME	P/N	S/N	B/C	Notes	
1	LAB1P3	CEVIS Display Cable	WLSJ320227-301	1001	00072082J	These items were	
2	(Near CEVIS)	CEVIS Ergometer	SEG46115811-303	1001	CHCCES01J	transferred FD4 per 13A.1 Transfer List Resupply #13 & 15.	
3	LAB1P3_D2	Push Rod	SED46110777-303	-	-		
4	CEVIS Accessory Kit,	CEVIS Bio Bag	SED46105933-320	-	-		
5	P/N SEG46116009-	→ Clamping Fork	KLSD210028-005	-	-		
6	301, B/C	Hardmounted Components Bio Bag	SED46105933-321	-	-		
7	CHCCES02J	→ Pedal Wrench Assy (AKA Allen wrench)	WLSD210162-301	-	-		
8	LAB1P3_D2	CEVIS Isolator Kit	SEG46116012-301	-	00015648J		
9	LAB1D4_A1 Crew Contamination Protection Kit, P/N SEG42103702-302, S/N 1002, B/C CHCCPK02J	Surgical Gloves (one pair)	35115	1	-		
10	NOD1P4_A2 1.0 CTB: MPLM Vest Outfitting Bag, B/C 002933J	Braycote	601	-	-		
11	NOD1D4_B2	Mesh Bag	SKD13101494-305	-	_		

15-0987 (MSG 115): Stowage Locations for Sat PLAN (GMT 230, FD11) Page 2 of 6

12	NOD104_C1	Ziplock (small)	-	-	-		
13	PMA1 0.5 CTB: Sanitary Hygiene Pantry - 3, S/N 1256, B/C 010437J	Dry Wipes	-	-	-		
14	PMA1 0.5 CTB: Oral Care, Shaving Supplies, S/N 1262, B/C 010443J	Cotton Swab (one)	528-20693-1	-	-		
15	LAB1S4 Maintenance Work Area	Gray Tape 1"	528-41798-5	-	-		
16	ISS Deployed	DCS 760 Camera	SEZ33113001-302	1013	=		
17	NOD1D4_G2	ISS Tool Kit	-	-	00004706J		
Туре	: Restow		IMS Plan: No				
18	NOD1D4_K2	Ziplock	-	-	-	labeled "CEVIS Retainer"	
19	1.0 CTB:	→ CEVIS Retainer Fastener	WLSD210115-016	-	-		
20	Broken/Expired Items, S/N 1080, B/C 003970J	→ CEVIS Retainer Plate	WLSD210115-017	-	-		
21	LAB1P3_D2 CEVIS Accessory Kit, P/N SEG46116009- 301, B/C CHCCES02J	CEVIS Contingency Controller (aka Manual Control Knob)	SEG52100920-301	1001			
22	13A.1 Transfer List Return Item #726.2	Ergometer Display Cable Assy	WLSJ320227-301	1002	-		
23	13A.1 Transfer List Return Item #726.1	CEVIS Ergometer Assy	SEG46115811-302	1002	CHCCES13J		

15-0987 (MSG 115): Stowage Locations for Sat PLAN (GMT 230, FD11) Page 3 of 6

CMS	CMS-CEVIS-CAL							
15-07	15-0787 CEVIS – ERGOMETER AND DISPLAY/CONTROL PANEL CALIBRATION							
Type	: Standard		IMS Plan: No					
#	LOCATION	ITEM NAME	P/N	S/N	B/C	Notes		
1	LAB1D2 0.5 CTB: CEVIS/ EWIS/PANTS BAG,	CEVIS Resupply Kit	SEG46116005-301	1002	00072271J	This was in the 13A.1 Transfer List Resupply Item #14		
2	S/N 1056, B/C 003938J	→ CEVIS PCMCIA Card	WLSJ320226-301	1026	-	Card assigned to Clay		
Type	: Restow		IMS Plan: No	IMS Plan: No				
3	13A.1 Transfer List Return Item #801	CEVIS Resupply Kit	SEG46116005-301	1003	00015060J	Place CEVIS PCMCIA Cards in CEVIS Resupply Kit and Stow for Return		
4		→ CEVIS PCMCIA Card	WLSJ320226-301	1028	-	Card assigned to Fyoder		
5		→ CEVIS PCMCIA Card	WLSJ320226-301	1029	-	Card assigned to Oleg		
6		→ CEVIS PCMCIA Card	WLSJ320226-301	1030	-	Card assigned to Suni		
7		→ CEVIS PCMCIA Card	WLSJ320226-301	1031	-	Card assigned to Clay		

J. 1 Z	<u> PREBREATHE USIN</u>	NG SHUTTLE O2 TEARDOWN				
Туре	: Standard		IMS Plan: No			
#	LOCATION	ITEM NAME	P/N	S/N	B/C	Notes
1	LAB1P5_A1	Clean Room Gloves (aka Powder Free Gloves)	SEG33116979-301	-	-	
2	A/L101	Teflon Bag	300045-08	-	-	In M-02 Bag Outside
3	M-02 Bag: EVA PREP AND OPS, S/N 1038, B/C 003019J	Clean Room Vinyl Tape	3M/1251	-	-	Pocket.
4	Crew Pref	Flashlight	Crew Pref	-	-	
5		Ear Plugs	Crew Pref	-	-	
Гуре	: Restow	-	IMS Plan: No			•
6	NOD1P4_D	ORCA O2 Outlet Line	683-62472-1	001	00048269J	If not already restowed
7		G02 Transfer Flex Hose Assy	V857-643003-002 (MC276-0054-2001)	0658	-	

15-0987 (MSG 115): Stowage Locations for Sat PLAN (GMT 230, FD11) Page 4 of 6

DCE	31-13A.1-PACK							
2.003	3 13A.1 SAMPLE TRA	ANSFER TO DOUBLE COLDBAG						
Туре	: Standard		IMS Plan: No					
#	LOCATION	ITEM NAME	P/N	S/N	B/C	Notes		
1	NOD104_B2	Double Coldbag	SEG39136374-301	1010	00050404J			
2	LAB104_B1	Dewar ASE Pouch	03298	03J	MEFDAP03J			
3		→ White Gloves	03291-1	ANY	ANY			
4		→ Long Tray Strap	03297-2	ANY	ANY			
Туре	: Restow		IMS Plan: No	IMS Plan: No				
5	LAB104_B1	Dewar ASE Pouch	03298	03J	MEFDAP03J			
6		→ White Gloves	03291-1	-	-			
7		→ Long Tray Strap	03297-2	-	-			
8	LAB105_B1 0.5 CTB, S/N 1351, B/C 010532J (MELFI Logistics Bag)	Velcro Straps [QTY: 9]	528-43074-1	-	-			
9	13A.1 Transfer List Return #706	Double Coldbag	SEG39136374-301	1010	00050404J			
10	NOD1O4_B2	Double Coldbag	SEG39136374-301	1003	Report B/C			

DCB	2-13A.1-PACK					
2.005	13A.1 SAMPLE TRA	NSFER TO DOUBLE COLDBAG	#2			
Type	: Standard		IMS Plan: No			
#	LOCATION	ITEM NAME	P/N	S/N	B/C	Notes
1	13A.1 Transfer List Resupply #33	Double Coldbag	SEG39136374-301	1006	00050400J	
2	LAB1O4_B1	Dewar ASE Pouch	03298	03J	MEFDAP03J	
3		→ White Gloves	03291-1	ANY	ANY	
4		→ Long Tray Strap	03297-2	ANY	ANY	
Type	: Restow		IMS Plan: No			
5	LAB1O4_B1	Dewar ASE Pouch	03298	03J	MEFDAP03J	
6		→ White Gloves	03291-1	-	-	
7		→ Long Tray Strap	03297-2	=	-	

15-0987 (MSG 115): Stowage Locations for Sat PLAN (GMT 230, FD11)

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8	LAB1O5_B1	Velcro Straps [QTY: 9]	528-43074-1	-	-	
	0.5 CTB, S/N 1351, B/C					
	010532J					
	(MELFI Logistics Bag)					
9	13A.1 Transfer List	Double Coldbag	SEG39136374-301	1006	00050400J	
	Return #707	-				

HAT	CH-CLOSE					
		ND HATCH CLOSE (BYPASS CONFIG)				
		INSPECTION (Referenced procedure				
	: Standard	ITEM NAME	IMS Plan: No	0/11	D/0	N. C.
#	LOCATION	ITEM NAME	P/N	S/N	B/C	Notes
1	NOD104_B1	Kapton Tape	528-41353	-	-	
	0.5 CTB: Office					
	Supply Pantry - 3					
	(Duct Tape), S/N					
	1178, B/C 006627J					
2	NOD104_C1	Rubber Gloves	V669-000700-001	-	-	
	0.5 CTB: Rubber					
	Gloves, S/N 1159,					
	B/C 006608J					
3	LAB1 FWD	APAS Hatch Tool	11Ф732.Г1021-ОА	-	-	
	ENDCONE	(aka Ручка)				
4	Docking Mechanism	Cleaning Pads	33У.9938.002	-	-	
5	Accessory Kit, P/N 33Y.9962.003	1 1/2 Inch Wrench	528-20942-1	-	-	
6	LAB1 FWD	Standoff Cover Bag Assy	SEM39125998-301	_	_	If not found, may be inside
Ū	ENDCONE	(aka Docking Target Standoff Cross Bag)	=======================================			Docking Mechanism
		(=				Accessory Kit.
7		Target Base Cover Assy	SEM39125997-301	_	-	In a bag in the closeout
		(aka Docking Target Base Plate Cover)				above the Lab Fwd Hatch.
]				If not found, may be near
						PMA2.
8	13A.1 Transfer List	Ziplock: IMV O-Ring Kit	-	-	-	One set O-rings to be
9	Resupply #2	→ Face O-Ring [QTY: 2]	2-255\$0604	-	-	installed; Set labeled
10		→ Bore O-Ring [QTY: 2]	2-248S0604	-	-	"spare" restowed per
11		→ Braycote	601	_	-	below if not used.
12	NOD1SD4	VACUUM CLEANER ASSEMBLY	SEG39125637-301	1003	1929276	

15-0987 (MSG 115): Stowage Locations for Sat PLAN (GMT 230, FD11) Page 6 of 6

13	NOD104_A2 1.0 CTB: Vacuum Cleaner and Accessories, S/N 1253, B/C 010589J	ISS Vac, Brush	SEG39123368-301	-	00018514J	This brush is labeled: "FOR HATCH SEAL CLEANING ONLY"
14	Crew Pref	Dry Wipes	Crew Pref	-	-	
15		Flashlight	Crew Pref	-	-	
Type	: Restow		IMS Plan: No			
16	LAB1 FWD	Hatch Cover	33У.9936.021	-	ı	Confirm restow location
17	ENDCONE	Target Base Cover Assy	SEM39125997-301	-	=	with MCC-H.
		(aka Docking Target Base Plate Cover)				
18		Standoff Cover Bag Assy (aka Docking Target Standoff Cross Bag)	SEM39125998-301	-	-	
19		Docking Mechanism Accessory Kit	33У.9962.003	-	=	
20		→ 1 1/2 Inch Wrench	528-20942-1	-	-	
21	NOD1P4_A2	Ziplock: IMV O-Ring Kit	-	-	=	REPORT if any spare O-
22	1.0 CTB: MPLM Vest	→ Face O-Ring	2-255S0604	-	=	rings remain and
23	Outfitting Bag (aka	→ Bore O-Ring	2-248S0604	-	=	confirm restow
24	VOK), S/N 1048, B/C 002933J	→ Braycote	601	-	-	complete with MCC-H.

P/T\	P/TV-EVA DCS-RECNFG						
2.730	2.730 760 EVA Camera Disassembly						
Туре	: Restow		IMS Plan: No				
#	LOCATION	ITEM NAME	P/N	S/N	B/C	Notes	
1		EVA Camera Blanket	SEZ33113449-301	-	-		
2	A/L1D2_Behind	→ 28mm, 35mm, 50mm Lens Cap	SEZ33113449-303	-	=		
3	Closeout	28mm EVA Lens	SED33105019-301	-	-		
4	1.0 CTB: EVA Camera	EVA Action Finder	SED33110611-327	-	-		
5	Accessories, S/N 1221,	Camera Mtg Assy Thermal Blanket	SED33117417-301	1001	-		
6	B/C 006717J	→ Camera Mounting Assy	SED33113695-302	1038	-		
7		1GB EVA Flash Card [QTY: 2]	SEZ33118356-301	1070	-		
				1057	-		
8	LAB1D3	DCS Rechargeable Battery	SDZ33112993-802	-	=		
	0.5 CTB: Photo/TV 2,						
	S/N 1360, B/C						
	CTB00265J						

2 4

FLIGHT DAY 3 DOCKING ORBITER with ISS CO2 ABSORBER REPLACEMENT

(7 Crewmembers/Single Shift/FD 17)

FLIGHT DAY	POS A	POS B	CK CMPLT
LAUNCH	1	2	
PRE FD1	"	"	
POST FD2	3	4	
PRE FD2	5*	6	
POST FD3	7	"	
PRE FD3	"	8	
POST FD4	66	"	
PRE FD4	9	"	
POST FD5	66	"	
PRE FD5	66	10	
POST FD6	66	"	
PRE FD6	11	"	
POST FD7	66	"	
PRE FD7	66	12	
POST FD8	66	"	
PRE FD8	13	66	
POST FD9	"	"	w/ SSPTS
PRE FD9	"	STS-114 9	
POST FD10	"	"	w/ SSPTS
PRE FD10	STS-121 34		
POST FD11	66	"	w/ SSPTS
MID FD11 (HATCH CLOSURE)	STS-114 14	STS-114 15*	
PRE FD11	"	STS-114 16	
POST FD12	STS-114 17	STS-114 18	
PRE FD12	STS-114 19	STS-114 20	
POST FD13	14	15	
PRE FD13	16	17	
POST FD14 (EOM)	18	19	
PRE FD14	20*	21*	
POST FD15 (EOM+1)	22	23	
PRE FD15	24*	25*	
POST FD16 (EOM+2)	26	27	
PRE FD16	28*	29*	
POST FD17 (EOM+3)	30	31	

*Reseal LiOH cans w/ Gray Tape and stow (Locations of canisters on back)

NOTE: This card is specifically used for the STS-118 mission with the Orbiter conducting single shift operations with a crew size of 7. This changeout scheme reflects FD3 docking with ISS and CDRA dual bed and Vozdukh operation. The double lined box around FD9 through FD11 represents the +3 days that are dependent upon successful SSPTS operation.

15 16



Aug 18, 0300 GMT: Dean is a CAT 4 with winds 145 MPH, moving west at 18 MPH.

120-hour landfall is south of Brownsville, TX. Due to tropical and CONUS weather features, Sunday will most likely be decision point on forecast modifications.

MSG 118 (15-0990) - FD10 MMT SUMMARY

Page 1 of 4

FD10 MMT Summary

The FD10 MMT met to review mission progress including a Wing Leading Edge Sensor Team Summary and the final Debris Assessment Team TPS Damage Summary. A significant portion of the MMT was also dedicated to review of mission and MCC Flight Control Team options in the event that Hurricane Dean is a significant threat to the Johnson Space Center next week. The MMT made a key decision to shorten the mission content by one day with landing on FD14 in order to protect for the Johnson Space Center closing as early as FD13 based on the latest predicted storm path.

 Transfer Ops: As of the MMT, approximately 76% of the middeck and 79% of the Spacehab transfers are complete. The Space Shuttle and ISS Programs greatly appreciate the tremendous effort by the crew to complete the planned transfer operations.

ISS Comm String 2/DAIU Troubleshooting: The ISS S-band string 2 activation occurred today after reconfiguring an ISS rack LA1D2 wire harness. ISS S-band string 2 is performing nominally and will support ISS operations as the primary system. Detailed DAIU troubleshooting was performed on FD10; including scopemeter measurements of laptop-generated tones. The preliminary indication is that there is a wiring problem between PMA2 and the Lab and not a DAIU problem

 EVA Glove Damage: The EVA Project presented the rationale to proceed with EVA 4. The rationale centered on the absence of any evidence from the EVA 3 video or discussions with the crew that suggests an obvious region of concern for a glove cut or abrasion. A review of the video from EVA 3 did not reveal any visible sharp edges or excessive wear events. A review of the processes used in the buildup for all of the primary and backup gloves used on STS-118/13A.1 revealed no discrepancies or changes that could have contributed to the observed Vectran damage.

The prime rationale includes the fact that if Rick's glove damage was caused by wear, the risk is mitigated by Dave and Clay performing EVA 4 with gloves that have been inspected and have no RTV damage. EVA 4 tasks are also less hand intensive than Rick's EVAs, and of course periodic glove inspections are in place. If the damage was caused by a sharp edge, it is less likely that the sharp edge existed at the translation paths common to EVA 3 and EVA 4 tasks. Most of the EVA 4 translation paths are commonly used (airlock and along the truss) and have resulted in no glove damage on other EVAs. The translation across the CETA cart to perform the OBSS OSE task was also used by Clay during EVA 3 and resulted in no damage to his gloves. Finally, to verify that there are no concerns with wear along the translation path, additional glove inspections have been added after long translations.

MSG 118 (15-0990) - FD10 MMT SUMMARY

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Window 2 MMOD Impact: The Window 2 MMOD impact is estimated to be 0.125 inches in diameter. Using a typical diameter-to-depth ratio that has been derived from many historical post-landing observations, an estimated depth was computed and compared against allowable MMOD impact depths in two flight regimes. The first flight regime was at peak window loading, which occurs on the outer glideslope on final approach and the other was at peak entry heating. The conclusion reached from the analysis is that the estimated Window 2 impact depth does not exceed the allowable depth in either of the two flight regimes. The analysis is known to include significantly conservative assumptions, which provides additional confidence that this MMOD impact is not an issue for entry.

Wing Leading Edge Indications: The team presented a summary of the sixteen on-orbit Wing Leading edge indications which ranged from 0.5 to 2.0 Gs. The magnitudes seen on STS-118 have been very similar to previous missions although there has been a 50% increase in the number of indications compared to previous flights. This may be attributed to the fact that improvements have been made to the system to provide data simultaneously for both wings for longer periods of time and at colder temperatures. For example, the monitoring time during STS-118 before docking is twice as much as STS-117 and about three times that of STS-116.

 Most of the indications, a majority of which occurred on the port wing, were clustered early in the mission prior to and after docking. A few of the wing leading edge indications on previous flights have been correlated to minor impacts found on the wing leading edge panels during post-landing inspections. Many of the other WLE sensor indications from previous flights have not been correlated with anything including thruster firings, other mission events, thermal day/night cycles, etc. Many theories exist as to what has caused an increased number of wing leading edge indications on STS-118 including MMOD and the Perseid meteor activity. However, no definitive correlations were found between the Perseids and the increased indications since half of the indications occurred during Earth blockage. Only a single indication occurred during the Perseids peak with both wings being continuously monitored. Obviously, the MMOD concern is the primary reason for executing the late inspection, which will be performed on FD12.

Debris Assessment Team Summary: The Debris Assessment Team provided an in-depth review of all of the locations on the orbiter thermal protection system that have been assessed over the course of the mission. This includes all protruding gap filler and any OMS pod blankets, OMS pod tile, and lower surface tile damage. This includes: damage aft of ET doors, ET door damages, protruding horseshoe gap filler at starboard panel 22, port RCC panel 20 horse collar, protruding pillow gap filler on right hand wing trailing edge lower surface, protruding pillow gap filler on left wing elevon trailing edge, slightly protruding blanket material just forward of PLT's window, tile damage by window 4, slightly lifted right OMS pod blanket, three protruding gap fillers on port OMS pod, and minor OMS pod tile damages. Obviously, there has been very little concern for the overall TPS except for the one area of starboard tile damage that was the subject of discussion for much of the

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mission. The bottom line is that the orbiter's entire thermal protection system is 1 2 ready for entry pending the analysis of the late inspection data. Figure 1 contains an 3

overall summary of the key assessment points for the underside of the orbiter.

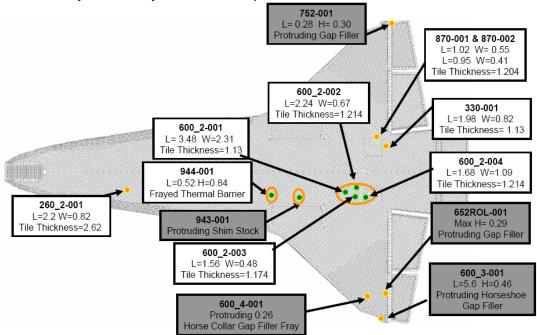


Figure 1. Composite Lower Surface Damage Sites Requiring DAT Evaluation

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> **Hurricane Dean Preparations**: The MMT received a briefing on the latest Hurricane Dean National Hurricane Center forecast track from the Spaceflight Meteorology Group. The projected track places the eye of a Category 4 storm in the Gulf of Mexico on Wednesday, FD15 (See Figure 2). Uncertainties in the forecast may change this prediction by +/- 6 hours. A low pressure system is forecasted to track west across the Gulf of Mexico from Florida to Louisiana. This low pressure system may influence the hurricane to take a more northerly ground track. Additionally, a more northerly track could lead to additional strengthening since the storm could miss the Yucatan peninsula entirely.

> JSC Senior Management will be meeting daily to assess the hurricane and will be making decisions appropriately. If the track of the hurricane holds to the forecast, it is expected that JSC will be closed on Monday, FD13, allowing non-mission support personnel to care for their families. All disciplines reporting to the MMT are preparing a list of mandatory support personnel that could support the remainder of the mission from JSC. The flight control team is making preparations to staff accordingly to support mission operations through landing.

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With the current forecast information, the MMT directed the Mission Operations Team to protect for a landing one day earlier on FD14. To accommodate this timeline, a shortened EVA 4 on FD11 is under consideration to allow for hatch closure at the end of the crew day on FD11. The ensuing timeline under evaluation would encompass undock, flyaround, and late inspection on FD12, FCS checkout on FD13, and landing on FD14. Currently all 3 CONUS landing sites would be called up to support landing on FD 14 with the priority being a KSC, EDW, NOR landing. This landing site plan can be refined as the hurricane track forecast improves over the next few days.



Figure 2. Hurricane Dean Ground Track Forecast

Good Morning, Al!

The CEVIS R&R has been moved to first thing in the day so that the following calibration, exercise checkout, and data downlink can be expedited for MCC-H GO to bring the old CEVIS home.

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There have been 2 changes to the CEVIS R&R procedure since your training:

- 1) The ratchet has been upgraded to 3/8 inch drive.
- 2) CEVIS has been moved to a PS-120 (Power Supply -120V). You now only need to power off the UOP 5 J4 PS-120 J1 port, <u>not UOP 5</u>, and no additional equipment will need to be powered down.

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During the R&R today, only the CEVIS Display Cable and the CEVIS Ergometer will be replaced. The Manual Control Knob will be removed and stowed on ISS. The photo below identifies the various CEVIS components and which items will be kept and which items will be swapped out.

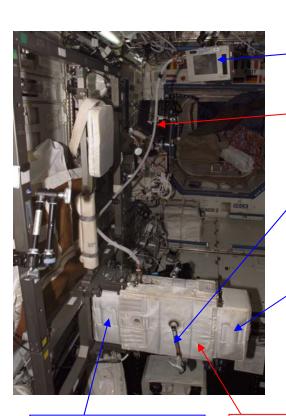
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A Stowage note for the R&R will be available for everyone in the Shuttle FD11 Execute Pack and onboard the ISS. In addition, for the ISS, a CEVIS - Calibration stowage note will be uplinked asking Oleg to pre-pack the old CEVIS PCMCIA cards for Return.

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CEVIS Display/ Control Panel

CEVIS Display Cable (will be replaced)

CEVIS Pedal Cranks (1 of 2)
-Will be removed from current unit, re-installed on new unit.

Red IVIS box

- Will be removed from current unit, re-installed on new unit.

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Blue IVIS box

- Will be removed from current unit, re-installed on new unit. CEVIS Ergometer (will be replaced)